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ABSTRACT

The report describes the impact on the nation of a nine-year effort in research and development in vocational-technical education. Major impact projects are described: (1) developing and restructuring vocational curriculum, (2) developing prevocational curricula, (3) vocational information and guidance systems, (4) management information systems, (5) development of career education, and (6) Statewide commitment. Distribution of Federal funds to the States under the Vocational Education Amendments of 1968 are tabulated, collected information described, and the impact evaluated to provide an interpretation of the overall nine-year effort. Future needs are discussed and suggestions offered. It is concluded that research and development funding has begun to make significant inroads into vital areas of knowledge in vocational education and manpower needs. A 66-page appendix provides: (1) tabulation of research and development funds by State, (2) expenditure profiles, and (3) current status and summary analysis from the U. S. Office of Education Curriculum Branch. (MW)

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IMPACT OF VOCATIONAL EDUCATION RESEARCH AT THE FEDERAL AND STATE LEVELS

Project Baseline Supplemental Report

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For

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ABSTRACT

In 1965 the first funding for research and development in Vocational and Technical Education was provided under the Vocational Education Act of 1963 (VEA). Since that time nearly $250 million has been spent in an effort to implement research projects, exemplary projects, and curriculum development in order to meet the expanding role of formal Vocational Education.

This report has made a first effort to present information that will demonstrate the impact on the Nation of this nine-year effort. Outstanding programs have been described. Some of these have grown from small projects into a fund of knowledge that has altered the structure of Vocational Education in many States. Some have affected not only our States but many foreign Nations as well. Information systems have been instituted, some providing analysis for State planners and some intended for use by students and teachers. Behavioral objectives and ways of measuring their achievement have been written for training programs in nearly two hundred job categories. Nationwide networks for curriculum coordination and for cooperative planning and sharing have been instituted. A higher level of community involvement has begun to appear.

In order to present an overall picture of the target areas affected by the VEA funding, a taxonomy of intended impact has been suggested. The State-administered projects under Parts C and D have been categorized and the resulting patterns analyzed. The majority of the funding has been directed into instructional implementation, with a strong emphasis on career development, particularly at the secondary and post-secondary levels.

The report has been summarized with a descriptive interpretation of the overall nine-year effort. In addition, several suggestions have been made based on overall integration of the information studied and analyzed in compiling the report. Additional emphasis on the cooperation between education and manpower, and the resulting effects on the very successful methodology of cooperative education should be encouraged. More work needs to be done in the area of training programs for young people who are out of school and facing socio-economic hardships due to unemployment.

The primary conclusion of this paper is that the research and development funding has begun to make significant inroads into vital areas of knowledge both about Vocational Education and about manpower needs. It will be of great importance to have these efforts continued and expanded.

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Chapter I

Major Impact Projects

Introduction

Vocational educators can trace their historical roots back to Fellenberg and Pestalozzi. For a long period the majority of the educational system remained unmindful of their work. The Smith-Hughes Act began to alter the national aloofness toward formal education for the nonprofessional occupations, but even with the funds granted under the 1917 Smith-Hughes Act and the George Barden Act in 1946 little heed was given to one of the most important elements in the continued revitalization of Vocational Education. It was only with the complete restructuring of the Vocational Education legislation occurring in 1963 that any noticeable attention was given to the organization of a research and development component for Vocational Education. Now, some eleven years later, the continued research and development effort appears to have been indispensable to the development of the current Vocational Education system. The Research Coordinating Units (RCUs) established by the 1963 Act have developed into an educational catalyst causing major changes within Vocational Education and reaching deeply into the very roots of the entire educational system.

This chapter has been written with the intent to share with the reader the extent and significance of the impact of the research and development portions of the Vocational Education Act of 1963 (VEA) and the Vocational Education Amendments of 1968 by describing the historical development of some of the projects that have emerged as having a considerable influence on the educational system when compared to the little money invested by the Federal government in their initial formation. Since 1965, when funds requested under the VEA began to be available, the Federal government has allocated less than 250 million dollars for research and development for Vocational Education. This nine-year total amounts to approximately three percent of the amount spent by the Federal government last year alone for food stamps and public assistance. If, each year, Congress were to obligate to the States for vocational research and development only one percent of the funds spent for food stamps and public assistance, the funding for research and development would be tripled.

The writers of this report did not intend to present a complete exposition of all the major projects occurring around the United States as a result of Federal research grants. It would not be possible within any reasonable time and cost allowance. Thus if projects the reader considers essential and widespread have been omitted this does not mean they are of less worth than the ones described.

Several distinct lines of research and development can be seen now as having influenced changes in both Vocational Education and the total educational scene whose significance may equal or even exceed those documented as a result of major Federal efforts where billions have been spent. The quest for accountability, an emotion-charged and controversial

subject in any group of educators, has led to research in several directions. Management information systems to enable speedy retrieval of specific kinds of information by means of computerized data banks have been developed in many States. Behavioral and performance objectives and ways of measuring their achievement are other essential areas of advancement being pursued both by single States and by groups of States.

Nationwide networks for curriculum development and research coordination are attempting to provide means of sharing an information access from one group to another. The research and development programs funded under VEA, Part C have begun to show the way toward an educational system able to provide for all the children the kind of background they need to choose their life goals in keeping with their own interests and abilities and relevant to the opportunities available where they wish to live. The exemplary programs funded under Part D are beginning to demonstrate an increase in percentage of students choosing to complete school, attaining employable skills, and going on to further education. They are also beginning to show a higher level of community involvement.

Developing and Restructuring Vocational Curricula

For the first several years after the passage of the Vocational Education Act of 1963, many workshops, meetings, and surveys were conducted on a nationwide scale. Two examples of the results of early nationwide surveys may be seen in the Aviation Mechanics Project and Technical Education Research Centers (TERC).

Based on the findings of the survey of aviation mechanics programs throughout the U.S., the FAA altered the licensing requirements. With the impetus given by this change on the part of the FAA, and using the results of the survey, some decisions were made about ways to improve instruction and directions to be taken in developing the new curriculum. After a year of working to completely revise the curriculum and methodology the results were ready for use by the schools.

A followup survey in 1970 showed 150 schools certified by the FAA teaching the new program, with nearly 16,000 graduates. The program was also being used by eighteen other countries: Norway, South Korea, Thailand, Sweden, Chile, Laos, Japan, Israel, Saudi Arabia, Ethiopia, Britain, France, Italy, Trinidad, Canada, Russia, Australia, New Zealand and Switzerland.

The nationwide survey, also in 1965, which was done for the area of Biomedical Equipment Technology (BMET) was responsible not only for a program to train people to use the new biomedical equipment but also for the establishment of an entire new organization, Technical Education Research Centers (TERC). The original survey indicated a need for 1,000 employees at that time, and an increasing need for the future with no source of trained personnel other than the military. In the years since that first survey TERC has developed new programs in Nuclear Medicine Technology (NMT), Electro-Mechanical Technology (EMT) and Laser and Electro-Optical Technology (LEOT). It has grown into an organization able to provide technical assistance and advice to States

throughout the Nation who wish to contract for services ranging from consultation to complete program development. Figure 1 shows the growth and spread of four major TERC programs from the original project headquarters in Massachusetts to programs in thirty-five States at the present time. The map format should also be credited to TERC. Figure 2 shows the proportion of funds for the four technologies provided by Federal sources compared to those provided by State and local sources.

Fiscal year 1975 was not included in Figure 2 because the graph was not long enough to show the projected State and local funding for the four projects combined. It should be noted that no Federal funds were to be expended--the local areas will have taken over the entire responsibility for operating the programs.

Developing Pre-Vocational Curricula

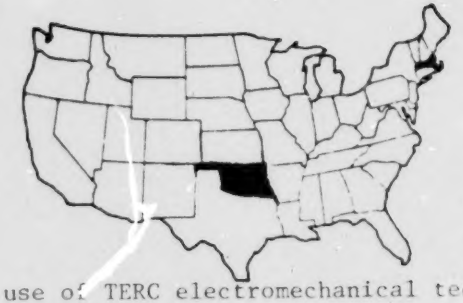
Whatever State a person may visit, there are educators in the school systems who know of and use the texts in the "World of Construction-World of Manufacturing" series to acquaint children of middle school age with the adult world of work. They are being used this year by over 420,000 children in every State in the union, in three provinces of Canada, and in the American Dependent Schools in Germany, Italy and France.

Some of the ideas behind this method of presenting world of work concepts to young people had been used by individual teachers in various places, and occasionally a teacher or administrator would write up and present a particular program in a professional journal or to an organization but the materials necessary to make these concepts transportable and available to the schools on a widespread basis were not on the market. Therefore, only the children who happened to be in an industrial arts classroom taught by a teacher who was especially interested in all of the steps involved in the total process of construction or manufacturing or who may have had some experiences he considered outstanding and wished to share, were fortunate enough to be exposed to these concepts.

Then in 1965, when it became known that the Vocational Education Act of 1963 included a provision for funding for research and development of curriculum in industrial arts for secondary students, a group of educators at Ohio State University and the University of Illinois joined together to plan a series. This series would provide not only the information about a program, but also the instructional materials for the teachers and students. The materials would enable teachers to conduct a program for a whole school year without originating major segments of curriculum. Without the Federal funding it would not have been possible to plan a project on a major scale such as they envisioned.

The first eighteen months were required to develop a rationale for and a structure of industrial arts subject matter. Once the philosophy was devised and the framework of the series had been written, the next step was to plan a system for developing, field testing, disseminating and evaluating a comprehensive curriculum package. The project directors searched for, but could not find, a comparable curriculum evaluation effort to serve as a model, so the evaluation had to be developed from

TERC originated in 1965, first project to survey hospitals and other medical facilities nationwide; based in Massachusetts.



First school use of TERC electromechanical technology program materials, 1968, one school involved, in Oklahoma.

By 1970, program materials were available in one or more of the areas of electromechanical technology, biomedical equipment technology, and nuclear medicine technology in schools in 11 states. EMT: 3 schools; NMT: 3 schools; BMET: 8 schools.

In 1973, many of the States had programs in all three areas, some were developing program materials for a fourth, laser and electro-optical technology. Schools in thirty-five States had at least one of the four programs. EMT: 70 schools; NMT: 16 schools; BMET: 28 schools.

Figure 1. Growth of School Usage of TERC Program Materials for Electromechanical, Biomedical Equipment, Nuclear Medicine, and Laser and Electro-Optical Technologies.

Source: January 1974 draft of Technical Education Research Center brochures.

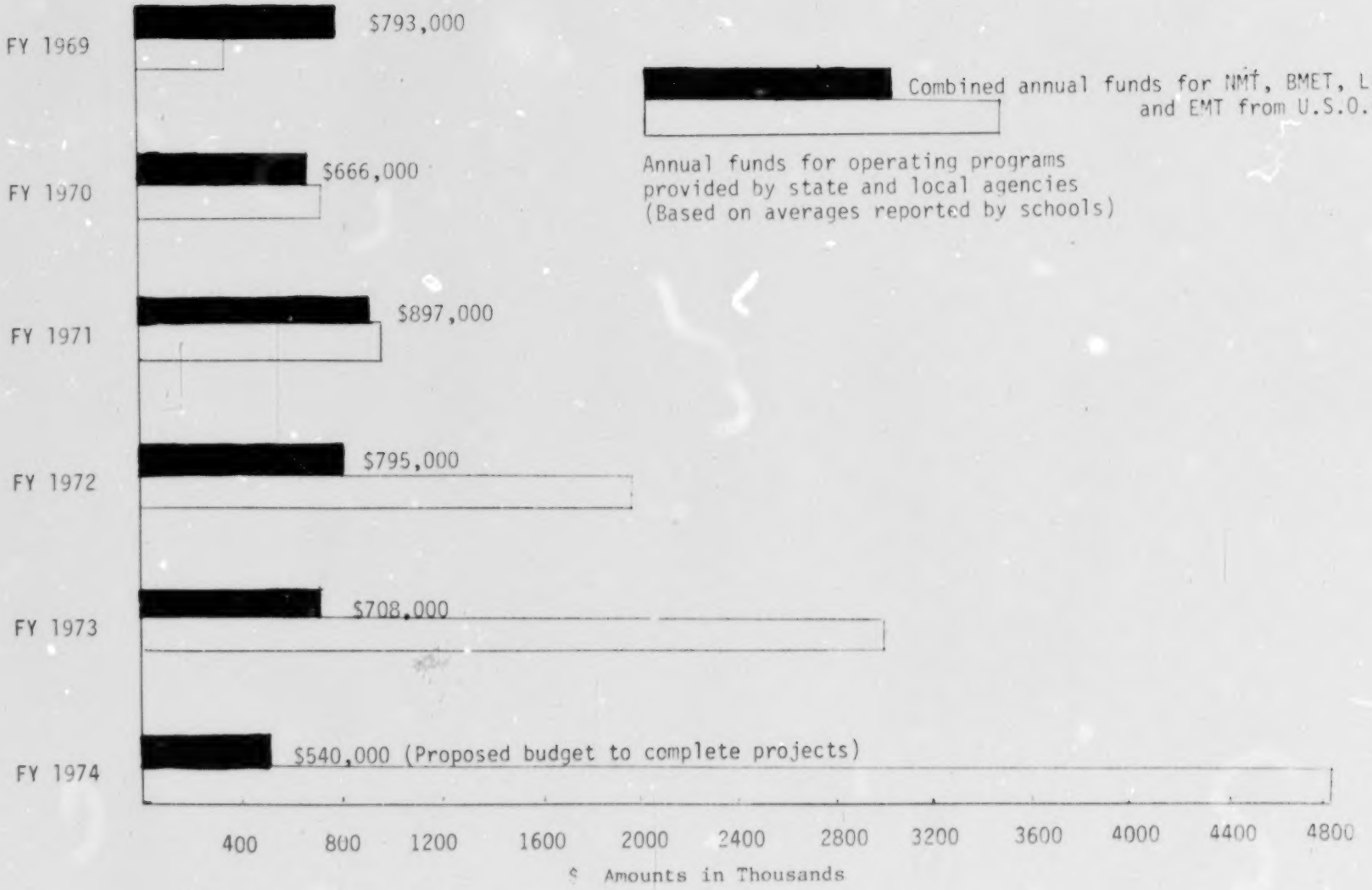


Figure 2. Annual Expenditures by Fiscal Year for Projects and Programs in Biomedical Equipment Technology (BMET), Nuclear Medicine Technology (NMT), Laser and Electro-Optical Technology (LEOT) and Electro-Mechanical Technology (EMT)

Source: January 1974 draft of Technical Education Research Center brochures.

scratch. The next four years were spent writing texts for a two-year instructional package and field testing the materials. Six schools were used as test sites, in the states of Ohio, Florida, New Jersey, Illinois, Texas and California (Figure 3). During the trial years of 1967-1970 the materials were presented to about 20,000 students. With the completion of field testing, acceptance of the series was rapid and widespread.

Over two million dollars in a period of six years might seem a major sum, but the result has been the development of a complete package which is now being produced by a publishing firm and made available for order by any school system. Royalties are being paid to the U.S. Treasury, the sponsoring institutions, and the authors. The package provides all the information necessary for the teacher to present the entire year's program, as well as help in devising any additions the teacher or administrator may wish to include to suit the particular needs of the community. In addition to the textbooks, laboratory manuals, and teacher's guide, the set includes for each day's work a list of course objectives and behavioral objectives, achievement tests for the course, time schedules, presentations, demonstrations, discussion questions, procedures for laboratory management and safety precautions. It also provides lists of equipment, tools, expendable materials, special materials and visual aids and devices.

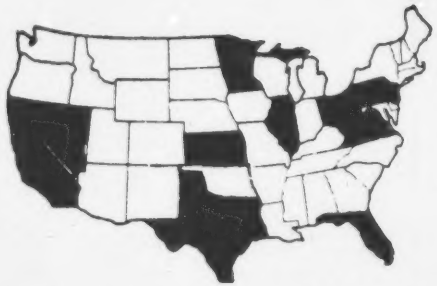
At about the same time as the group in Ohio and Illinois were starting their project on the World of Construction-World of Manufacturing series, a group in New Jersey found, to their frustration, that the provisions of the Vocational Education Act of 1963 did not allow for curriculum development in the industrial arts area for children in the K-6 level. They felt that in order to provide experiences for the children that would enable them to be successful both in school and in life some changes in the elementary curriculum had to be made to reflect today's technological society. Working on a set of basic assumptions about children's needs, a curriculum called Technology for Children (T4C) was developed. T4C was intended to help children learn about themselves, gain a growing mastery of the learning situation, participate in personally rewarding hands-on activities which would help them develop a better understanding of technology and the world of work, and gain the basic educational skills at a more meaningful level.

The Division of Vocational Education made some State funds available, and these, combined with a grant from the Ford foundation, were used to develop both the curriculum and the auxiliary materials required for the teachers to be able to direct technological activities within the classroom. They did not wish to saddle the teachers with an additional subject to be squeezed into the already crowded day, but rather to enable the teachers to enhance the regular subjects and make the learning experience more effective.

The first year, twenty-one teachers used Technology for Children (T4C) concepts in classrooms. When the VEA amendments of 1968 allowed funding for curriculum development in industrial arts for elementary children, New Jersey was able to establish Technology for Children projects in many more of its school systems. It has developed into an integral part of the total elementary education effort. Within the State of New Jersey almost forty-three percent of the school districts have T4C available with 50,000

1965-66 Philosophy developed and framework written by personnel from Ohio State Univ. and Univ. of Illinois

1967-70 Field tested in California, Florida Illinois, New Jersey, Ohio and Texas.



1971 Demonstration centers added in Illinois, Kansas, Michigan, Minnesota, Nevada, New Jersey, Ohio, Pennsylvania, Virginia and West Virginia

1974 Used by all fifty States, three Canadian Provinces, and the American Dependent Schools in Germany, France and Italy

Figure 3. Growth of the World of Construction-World of Manufacturing Series

Source: Industrial Arts Curriculum Project Final Report, ERIC file; The Journal of Industrial Arts Education, November-December, 1969, "The Industrial Arts Curriculum Project."; data as supplied by telephone interviews with project directors.

children in directly funded T4C classrooms. The New Jersey Department of Education predicts that by 1980 every elementary student in the State will be involved in the program. Since the teachers directly funded for T4C provide information and supplies to other teachers in their buildings, it has been estimated that as many as 750,000 children may now be having T4C experiences in their classrooms. Several other States have had workshops to acquaint teachers with T4C concepts, and New York has recently begun a federally funded T4C program of its own.

One of the vital factors in the success of Technology for Children has been the organized commitment of the educational system. A program is not initiated in a school unless the teachers and the administrators are willing to work cooperatively and to allow flexibility within the curriculum to accommodate the new concepts and methods. In addition, the community at large must be willing to support and assist the school system by providing special services and recommendations. The State department assures itself of sufficient local commitment by demanding that the local district have available matching funds in at least the amount requested from the State and agree to use those funds for Technology for Children programs whether or not the State can provide the amount requested - or any assistance at all.

Vocational Information and Guidance Systems

Lack of information about the job market prompted other types of analyses and surveys in addition to the ones done by TERC and the Aviation Mechanics project. In San Diego, an information system called Vital Information for Education and Work (VIEW) was compiled to tell students about the kinds of courses offered that are compatible with their career choices and abilities and about the jobs available in the local and near-by areas. The information was much more than just a listing of courses and job openings. Kinds of attributes, training, and experiences necessary for job qualification, both in general and specific to the jobs available locally were also listed. The materials consisted of aperture cards with microfilmed inserts, and a dating code insured annual updating. Within two years after the original field tests were held in four California sites, four other States were trying VIEW projects in selected locations (Figure 4).

By 1967, Illinois was working on a system intended to convey the same types of information, but in a computer dialogue format called the Computerized Vocational Information System (CVIS). During a one-to-one interaction with the computer, the student would input his interests and abilities and the computer printed or displayed the relevant range of occupations. As other States began to join Illinois in a CVIS consortium, many of them revised and adapted the materials to their own formats.

At the present time CVIS has been adopted by a consortium of users in thirty-eight States and two other countries. VIEW has project directors and users in thirty-four States and Guam. Each of these systems finds it difficult to count the numbers of students affected since the spread of uses includes not only students, but counselors, teachers, parents, administrators, and other citizens of the community as well.

VIEW Originated in San Diego, California, 1965.

By 1967 VIEW projects were being tested in California, New York, Utah, Colorado and West Virginia.

Adaptions of VIEW projects funded under Parts C and D of the 1968 VEA amendments were conducted in 1970-72 by nine additional States.

VIEW projects or adaptations of VIEW, under various names, are currently being used in thirty-three States and in Guam (Alaska is included but does not appear on the map).

Figure 4. Growth of VIEW Projects, 1965 - 1974

Source: State-Administered Exemplary Projects in Vocational Education, June, 1973, USOE; State-Administered Research and Development Projects in Vocational Education, June, 1973, USOE; letter from National Consortium Career Information Services, Bloomington, Indiana; data as supplied in project reports from various States.

Management Information Systems

Another area given high priority when research and development funds became available for Vocational Education was the design and establishment of systems to gather information intended to aid in planning for, managing and controlling Vocational Education.

According to a 1969 survey conducted by the Society for Management Information Systems, there is an almost 50-50 split among those surveyed regarding the definition of a management information system. The choice appears to be between an equipment configuration of fast response computers with a large data base and a concept relating to an organization's information processing equipment. Whatever the definition used, whether one of those two or some combination of both, a system to provide the information needed for State and local planning and management appears to be of high concern throughout the majority of State Vocational Education departments.

Thirty-seven States, D.C. and Puerto Rico currently have at least partially automated systems, and most of the rest of the States are moving in that direction. During the period from 1970 to 1972, sixty-five projects were conducted in at least twenty-three States using funds from Parts C and D. Several States have used their entire research allotment for the purpose of establishing a Statewide management information system. In Rhode Island, one of the most recent examples, the Vocational Education management information system has been designed to serve as a model for a Statewide system encompassing all of education.

One of the outstanding uses of the Washington State Vocational Education management information system has been to aid in making available an employment/enrollment forecasting guide. A decision model incorporating work force, employment and demand, enrollment, placement and other data was devised to provide employment forecasts in a form Vocational Education planners could use. Recommendations about program growth or reduction were made of actual enrollments, completions, and placements compared with demand. An analysis form and a decision guide allowed the recommendations to be based on objectively computed criteria. The analysis combined with a trend chart showing both historical and projected information were provided to State and local planners for use in making program decisions. Among the reports based on the Vocational Education forecast process are: a forecast of job opportunities in Washington State for 1975-81; a summary of projected demand, vocational program output, and output of other sectors used as part of the Washington State Plan for Vocational Education; and planning recommendations to the Superintendent of Public Instruction and to the State Board for Community College Education. Because of its careful structure and design, the forecast and decision model has proved to be a highly reliable information source for planning. It has therefore been used extensively by State and local education agencies in Washington.

The need for manpower supply and demand information in Oklahoma provided a major impetus for the initiation in 1968 of the Occupational Training Information System (OTIS) to aid administrators of vocational

and technical education. The use of data compiled by the system has been extensive and has continued to expand since its inception. Similar systems are being developed in several other States. The close continuous cooperation among State agencies responsible for manpower planning reflects an important characteristic of OTIS.

Following the establishment of a comprehensive data bank of manpower needs throughout the business, industry and government levels of Oklahoma, coordinated with public and private vocational-technical training programs, a student accounting system to provide current and followup data was added to OTIS. A subsystem to obtain information on vocational teacher supply and demand has also been developed. The coordination of data in such a variety of areas on a Statewide basis would not be feasible without the continuous, systematic and detailed information made possible by a system such at OTIS.

In Ohio, a computerized statistical reporting system is currently providing quick-access reports from documents provided by school systems operating Vocational Education programs. Four of the five subsystems provide tape storage information relating to current enrollment, student, and personnel data; priority criteria needs assessments to determine rate of reimbursement by district; number and type of schools offering Vocational Education, including number of teachers and closing enrollments: and a follow up of students completing vocational programs. The fifth subsystem provides a directory that tells which vocational courses are offer d at each school and lists the name of the teacher for each course. Ohio has also piloted a cost analysis project categorizing expenditures for each Vocational Education class to determine per pupil and per class hour costs for over ten percent of the State's vocational offerings.

An extensive vocational follow up system has been reporting information on graduates of all the area vocational schools in Minnesota for the past several years. The data base was designed to contain the minimum amount of information sufficient to allow vocational educators to make decisions concerning programs and to evaluate program effectiveness. Setting up a centralized system has proven to be far less expensive than having each institution follow up its own graduates. An additional benefit has been the capability of consistent and frequent updating and refining of the system throughout the State. Over a five-year period, the return rate for student questionnaires has been eighty-five percent and for employer questionnaires ninety-six percent. This consistent high rate of return has been attributed to the personalized and persistent methods used in contacting people for information.

Several efforts have been made to establish a nationwide management information system. Each of these efforts has provided information and impetus to at least some of the State systems visited during the course of the project. A supplemental report prepared by Project Baseline in 1974 described a proposed nationwide data base and discussed in detail some of the problem areas and possible solutions. That report also provided a listing of the current availability of essential data elements for each of the States relevant to the proposed data base.

The Development of Career Education

In 1966 a conference was conducted in Virginia involving fifty people from the areas of Vocational Education, curriculum, and theory of career development. During the conference on implementing career development theory and research, eight papers representing the culmination of several years of research were presented on implications for career development, counselor education and research. As a result, it was recommended that career development should be considered an integral part and goal of Vocational Education, and that Vocational Education should no longer concern itself solely with job training. The crises besetting education at the time indicated a vital need for the people responsible for managing the entire education system to recognize the personal growth process of career development and to redesign the curriculum from pre-school through post-secondary school.

Conferences at the University of Minnesota, in Oregon, and in other areas followed, and in 1967 the National Advisory Council on Vocational Education recommended the provision of funds and authority to the Commissioner of Education to establish exemplary projects based on research that would include the whole range of experiences now known as career education.

The 1968 Vocational Amendments provided the funding and the authority for the establishment of projects, and a policy paper was issued inviting school districts in each State to submit proposals for exemplary projects providing, in one operational setting, for: (1) occupational orientation at the elementary and secondary level, (2) work experience, cooperative education, and similar programs in a wide variety of occupations, (3) specific training in job entry skills just prior to leaving school, (4) intensive occupational guidance and counseling during the last few years of school, with initial placement of all students at the completion of their schooling, and (5) continued support from regular local sources following the three-year Federal funding period.

By the time U.S. Commissioner of Education, Sidney P. Marland, Jr., delivered his speech on career development in January 1971, each State and Territory of the Nation had had at least one project accepted, and by fall of 1971 all were in operation. The 1972-73 Part C commissioner's discretionary funds were also used for career education projects, frequently in other locations in the States but sometimes in coordination with the earlier Part D exemplary projects. Some of the projected outcomes are beginning to occur as hoped for.

The career education movement has had a profound and widespread effect on the education system in every State, in D.C. and in the Trust Territories. Another Project Baseline supplementary report deals with career education exclusively. This report will therefore only touch on it briefly, even though its impact at this time is probably greater than that of many other areas funded under the VEA research and development sections. Certainly a major share of the funds under Parts C, D, and I have been directed into career education since 1970.

Standing against the tide of increasing acceptance and commitment by States and school systems, by teachers and counselors, are still some

notable educators who fear the loss of certain vital facets of education. Some are asking whether stressing job skills will erase from the curriculum the learning of values. But examination of the objectives described in reports of career guidance programs currently being developed shows a strong positive value system approach.

Toward Accountability, a report of a career guidance, counseling and placement Part D exemplary project just completed in Mesa, Arizona, stresses the need for individual planning and development of all youth in addition to instruction and training. The rationale of the project states in part that only by accepting responsibility for the products of the schools, by becoming accountable, can educators hope to overcome the vandalism, drug abuse, and dropout rate among students, and the militancy and dissatisfaction among teachers.

Through systematic planning and evaluation an objectives-based set of instructional and counseling activities was developed to help the professional education team determine to what degree they were delivering what they planned to deliver. Top priorities in counseling in academic, educational-vocational, interpersonal and intrapersonal areas were derived from students, parents, teachers, counselors and administrators for each age group. This specific information enabled the Mesa guidance people to identify the top priority areas in the guidance programs they were developing. At each level, at least some of the high priority goals involved facets of value systems.

A career development package available now from the Agency for Instructional Television (AIT) called, "Bread and Butterflies", should also help to allay the fears of those who worry about loss of values. Headed by Tennyson of the University of Minnesota, educators from a consortium of thirty-four States developed learning packets designed to help students become aware of interpersonal skills and adjustments and personality and behavior characteristics that may be helpful or detrimental to success in the world of people as they leave school and enter a career. "Bread and Butterflies" encourages each student to become aware of his or her own personality and potential. The message of "Bread and Butterflies" is that "responsibility and beauty, stability and change can be fused, and that each is a necessary part of a rich, good, satisfying life".

While AIT derived the funds for the project directly from participating States, some of the States used portions of their State allotments of Part C and D monies to fund their share of "Bread and Butterflies". However, the direct influences of Federal research funding on its development are slight. A description of this project has been included as one example of diffusion to demonstrate that agencies and cooperative groups are currently continuing with research and development in Career and Vocational Education and Guidance on their own. Directions have been indicated by people working on federally funded research projects, and others are continuing to take up the major share of the task.

In Tennessee, an accelerated project for a Systems Program Approaching Non-unemployment of Vocational Education Students (SPAN) is an outstanding example of an exemplary program designed to take on responsibility for the

whole student population of the school. At the end of the 1971-72 school year, for two high schools involved in the pilot project, with a total of 518 graduates, seventy-three percent of the graduates were known to be placed in one of the categories: apprentice, area vocational or trade school, technical school, summer vocational school, college, military or full employment, with more than two-thirds of the remaining twenty-seven percent not followed, and less that nine percent of the total graduates unemployed and not continuing in school.

The following year (1972-73), while the total number of students graduating dropped slightly (to 510) the number going on to area vocational schools tripled, the number going to college nearly doubled, there were only one-fourth as many neither employed nor placed, and the number of students not followed dropped from ninety-six to thirteen. The number employed dropped somewhat (8.5 percent) as well, but there were fifty-six students in summer vocational programs, so another followup six months later would probably have shown a shift upward in employment.

In addition to the commitment to attain 100 percent placement of all seniors as they leave the public schools, SPAN has several other significant features. A cooperative education program was provided for students in grades seven through nine who were sixteen years old, to acquaint them with job attitudes and occupational responsibility. The industrial arts and home economics programs in the target schools have been redirected to an occupational orientation. A computer systems approach to job placement has been developed, and the information is currently available to more than 80,000 students in the Memphis City Schools. Ten films have been made to provide vocational orientation information by means of instructional television. These films, covering nine of the fifteen indentified occupational clusters, have been shown throughout Memphis and are also available for use by teachers in the classroom. The Memphis Board of Education plans to implement SPAN throughout the city, and the State plan now directs that at least fifty percent of all students in Tennessee's high schools be reached through vocational programs by 1975. Inquiries about SPAN have been received and information sent to educators in all fifty States and four other countries.

In Bismarck, the center for North Dakota's exemplary program in career education, there has been a noticeable upsurge in Vocational Education enrollments and interest. Two years after the program started, the local citizens voted to approve a bond issue to build a Vocational Education building at the Bismarck Junior College. This decision came none too soon. Vocational students, expecting to be able to use the new building by August, were being taught for several months in rented classrooms, because the completion date was moved to November. When the federally funded exemplary project began, there were only two Vocational Education programs at the junior college. Five programs were added when the junior college took over the responsibility for the MDTA center the next year. Now, when students who were influenced by the career education movement are beginning to enter the junior college, the vocational offerings have been expanded into a wide variety of programs enrolling half of the student body. The high school vocational program has also experienced the same kind of rapid growth. There are seven new Vocational Education courses this year, and the student enrollment in Vocational Education programs has reached two

and a half times what it was three years ago. In fact, it has nearly doubled since last year.

Total Family Career Development

The Mountain Plains Project, a six State cooperative effort based at Glasgow AFB, Montana, furnishes an example of a training program designed to enable an entire family to grow together as the head of the family is trained in a job skill that will enable him or her to move from a disadvantaged level to a lower middle class income. Wives are encouraged to use a part of their time learning a job skill as well as learning about upkeep of a house, nutrition, and child development; while husbands, in addition to their major task of occupational preparedness, are encouraged to learn some of the home and nutritional skills their wives are gaining.

Legal rights and responsibilities, community development and consumer education are other important steps in family development. The program also incorporates head start and other educational experiences for the children as well as exposure to normal leisure group activities such as sports and theater. During the three years of its operation, Mountain Plains has graduated 683 families, 111 were from Idaho, 108 from Montana, 114 from Nebraska, 110 from North Dakota, 115 from South Dakota and 125 from Wyoming. A final replication design to aid other communities in setting up similar projects for disadvantaged families in their areas should be ready for publication and dissemination in the next few months.

Converting several hundred families from welfare recipients or low income citizens to taxpayers has not been the only, perhaps not even the major, outcome of the Mountain Plains project. Since, on an average, six families enter and six families leave the project each week, a logistical system for tracking and projection had to be devised.

In a class of forty, no two students are likely to be at the same point, even if they are in the same program, so the courses are completely individualized. Four thousand learning activity packages have been constructed in twenty different areas such as family care curriculum, foundation education and the seven occupational areas of office occupations, building trades and services, marketing, mobility and transportation, lodging and food services, distribution and mid-management. The procedures for managing an open entry-open exit system on a large scale are ready for field testing this fall and by next year will be available for distribution.

Statewide Commitment - A Result and a Beginning

One of the most notable features resulting from many of the federally funded projects since 1968 has been the administrative commitment within a city or State to the implementation of the resulting concepts and curricula throughout the education system. In 1971, State education agencies in Georgia, New Jersey, Oregon, Utah, and Wisconsin participated in three integrally connected projects funded by the Bureau of Occupational and Adult Education, Elementary and Secondary Education, and Education for the Handicapped. Titled "Interstate Project: Planning in State and Local Education Agencies, the Next Step;" the project concentrated on testing

the effectiveness of systematic planning and evaluation by educational leaders.

Information gathered during a nationwide needs assessment conducted under the $50,000 Part I segment of the combined projects led to a decision to commit Utah's education system to systematic planning and implementation of career education. A task force was created to devise a complete set of objectives and an occupational philosophy to help teachers throughout the State learn how to carry out this charge.

Workshops were held first in the five project States, then in other States as well. Thousands of educators in many areas of the Nation were trained in the methods of needs assessments and systematic planning. While Project Next Step only gave local education agencies (LEAs) in Wisconsin $200 - 300, extensive additional support provided by the Wisconsin State Department of Education enabled hundreds of LEAs throughout the State to adopt the planning procedures.

In vocational training programs as well as career education State legislatures have responded to the charges set forth and the opportunities made available by the 1963 and 1968 vocational legislation. Wisconsin's 1965 law states, in part, that the State board of vocational, technical and adult education "shall establish a program of instruction at institutions throughout this State which will equip all of this State's people to find their place in the competitive labor market of today."

As one of the leaders in establishing a Statewide commitment to provide a comprehensive range of vocational programs in all high schools, Ohio was one of the first States to pass legislation not only requiring high schools to offer vocational programs but also providing funds on a Statewide basis for the implementation of those programs.

In order to insure systematic, functional and useful procedures, a program was planned to provide a review of six basic components: administrative, process variable, product, cost-analysis, availability and impact and acceptance and congruence. Given the title PRIDE in Vocational Education, the Program for Improvement, Development and Expansion in Vocational Education has been designed to improve the quality of Vocational Education throughout Ohio. Some statistics from the latest report may indicate the impact of this program. Of the secondary students available for employment, 74.9 percent are placed, compared to a National average of 62.1 percent. The unemployment rate for graduates of vocational programs is 5.3 percent, close to one-fourth the National average for people in that age group.

Some of the midwest States such as Minnesota, Wisconsin, and Iowa made a commitment to Vocational Education early in this century. This has led to a Statewide system of area post-secondary vocational schools intended to make available vocational training within driving distance for everyone in the State. Already one-third to one-half of Minnesota's work force is a product of the area schools. One emphasis there since the research funds became available through the VEA has been in the area of developing better evaluation and assessment methods. The career education programs have led to commitments to secondary Vocational

Education as well. Minnesota is currently involved in legislation that will require LEAs to provide all high school students with an opportunity for vocational training in at least fifteen occupations taken from at least twelve of the occupational clusters described by the USOE. The legislation will also provide for funding at the State level. The Tennessee legislature has passed a bill mandating the availability of vocational training for at least fifty percent of students, grades nine through twelve, by 1975.

These are but samples of Statewide commitments to an educational system designed to provide each student with an occupational direction and entry-level skills as he or she leaves the high school. As publications from various States have indicated, that is by no means all the education system should provide, but it is rapidly becoming a vital segment of the minimum each student should be able to expect.

Tracing Growth, and Example

On July 1,1973, the Vocational-Technical Education Consortium of States (V-TECS) was formed by seven States: Alabama, Florida, Georgia, Kentucky, Mississippi, Texas, and Virginia. Educational leaders in those States had been invited to gather together in order to develop catalogs of performance-based objectives and criterion-referenced measures in occupational education. The roots of the consortium trace back to several research studies done in California, one of which was aimed directly at occupational teaching and learning performance.

In the California study, the question raised was whether a class of students taught by a trained and experienced teacher using a specified set of performance-based objectives would score higher on a test based on those objectives than a similar class taught by a worker in the field with no teaching experience who was given the same set of performance objectives to teach to. In the process of conducting the study, it was necessary to write a definitive set of performance objectives so that both the trained teachers and the non-teachers could use them for a two-week planning period prior to teaching the class. The results showed no significant difference in performance on completion between students taught by teachers and students taught by the experienced workers who had no teaching background. One of the conclusions drawn was that not enough attention had been paid to training teachers to use performance-based objectives and criterion-referenced measures.

The RCU in Florida had been concerned about evaluation of students in Vocational Education courses, and evaluation of the vocational programs themselves. When the results of the California study became available, the Florida educators decided to investigate methods of using performance or behavioral objectives as evaluation criteria rather than elapsed time in class. Previously, the problem of using any criteria other than elapsed time had been rejected at least in part because there had been no way to determine, from one State to another, which objectives were considered important. In addition, the problems of standardization had seemed almost insurmountable. Over a period of three and one-half years, using $250,000 of State funds, Florida set out to develop specific objectives which were measurable and to establish a method of determining

the achievement of those objectives using criterion-referenced measures. These two phrases have been explained as meaning "what you need to know to do the job, and how the man will know whether or not you know what you need to know."

When the people in Florida became aware of the monumental nature of the task they had undertaken, they approached several other States requesting that they share in the work and the expense. In return, the other States would have the privilege of sharing the results accomplished by Florida originally and by each of the States who were willing to join in the task. Thus the Vocational-Technical Education Consortium of States (V-TECS) began. At the start, a nationally selected jury of experts in performance-based instruction met and devised a comprehensive model to be used as a basis for the catalogs each State would develop for the various job titles. In order to be sure that all of the States would be able to use the information gathered by each member State, a strenuous research approach was used. For each given job cluster an assessment was made of the tasks performed on the job, the time spent on each task and the relative difficulty of each task. In addition, the criticality of the task, meaning the consequences of poor performance, and the perishability, meaning the loss over a period of time of ability to do the tasks were also determined.

As a member responsibility, each member State agreed to do a specified number of projects, to complete a certain number of task analysis catalogs. In its opening year, the member States of V-TECS researched seventy-one job titles in nineteen projects. In the process, 39,000 workers were interviewed and worked with the project groups. This year thirty-two to thirty-five projects were planned and will include almost 140 job titles. In Florida, 246 industrial and sixty-four technical programs have been written based on the task analyses and objectives, and at least 200 programs are run each year in Florida schools.

At the present time the products of each State's projects are protected by copyrights and are available only to member States. The continual monitoring and control supplied by the central agency assures each member State that the products of the other States will be usable and the standards and quality will be commensurate with other work done by V-TECS. In this way, each State is assured that it will be able to use the work of all the other States. In addition, a sampling technique has been developed to determine whether a particular task analysis catalog is appropriate to a given area. Due to variations in the types of tasks performed for various climatic or other conditions, job elements may differ from area to area but the "complex purposive sample" used enables the educators involved to determine where the differences lie and how extensive they are.

Summary

The projects described in this chapter have been summarized in Table 1, by date rather than by type in order to provide a historical perspective. These projects represent only a sample of what is occurring throughout the United States as a result of federally funded research in Vocational Education. But even this small selection of projects has begun to

cause a noticeable alteration of the National Vocational Education picture.

Nationwide surveys of existing opportunities and vocational programs have determined some of the areas of need in emerging occupations. A variety of curricula have been written in an attempt to answer those needs and programs training thousands of young people have been started in schools throughout the country. Programs to acquaint children in the elementary and secondary schools with the world of work have been established in every State and Territory. Systems designed to bring up-to-date information about manpower needs and related school programs have been introduced and are expanding throughout many States. Management information systems are being developed and tested, and in many States they are being used extensively for Statewide planning and coordination. The growing development and use of performance objectives and methods of measuring skill development are beginning to have an influence on school systems throughout many States. They have been sufficiently developed in some States to have been made a legal requirement.

In keeping with the growing body of knowledge about how to plan and run Vocational Education, an increasing number of States are committing their resources to providing a comprehensive education system designed for all of the students. But not all of the questions have even been asked yet, much less answered. The beginnings of assessment and evaluation systems need a great deal of additional work and encouragement. Social acceptability and prejudice and their relationship with employment satisfaction and the unemployment rates have only begun to be explored.

Table 1

A Sampling of Projects Funded under VEA, Parts C, D, and I

Project Title	First Funded	Original Impact	Current Impact
Aviation Mechanics Project California	1965	Nationwide survey resulted in change of requirements for instruction by FAA.	150 certified aviation schools in U.S., 18 other countries using revised curriculum, 15,912 graduates.
World of Construction - World of Manufacturing Ohio	1965	Complete curriculum in each area including all materials, daily behavioral objectives, field tested in six States.	Programs taught in all 50 States, 3 provinces of Canada, America Dependent Schools in Germany, France, and Italy. 420,000 students, 2,200 schools.
VIEW: Vital Information for Education and Work California	1965	Provided information on microfiche about course offerings and jobs available to students in San Diego County, CA.	VIEW projects in 34 States and Guam, over 7,000,000 students receiving information.

Table 1 - Continued

Project Title	First Funded	Original Impact	Current Impact
TERC: Technical Education Research Centers Massachusetts	1965	Nationwide survey to determine availability of biomedical equipment technology programs. Development of curriculum.	Four major technical curricula being taught in a total of 33 States, also providing technical assistance and curriculum development in 20 other areas.
T4C: Technology for Children New Jersey	1965*	Hands-on experience and career awareness for 572 children in one school district.	50,000 children in 40% of the school districts in New Jersey. Also in New York. Workshops held in at least six other States.
Conference on Implementing Career Development Theory and Research through Curriculum Virginia	1966	Fifty participants from several States discussed career development as a personal growth process. This conference helped provide the background for Sidney Marland's 1971 statement supporting career development theory.	"Career Education" being presented to children in all 50 States. In pilot year, less than 1,500,000 children K-12 were involved Nationwide. Within two years, over 1,200,000 children in one State alone were in pre-secondary guidance and pre-vocational programs and in secondary Vocational Education.
CVIS: Computerized Vocational Information System Illinois	1967	Provided vocational guidance information to students on a 1-1 dialogue with computer basis.	Over 10,000 student uses at original site. 75+ schools adopting this program. Consortium members in 38 States, and 2 other countries.

* Originally funded by State of New Jersey and Ford Foundation because no provisions were made in the Vocational Education Act of 1963 for pre-vocational elementary level programs. Funded under the 1968 Amendments in many areas of New Jersey by 1970.

Table 1 - Continued

Project Title	First Funded	Original Impact	Current Impact
V-TECS: Vocational-Technical Education Consortium of States Georgia	1968	Performance objectives determined for occupational areas, task analysis procedure developed.	Task analysis catalogs developed for over 200 jobs titles. In Florida alone, 246 industrial and 65 technical programs. Expanded to include six other States, with three more expected to join this year.
Occupational Training Information System (OTIS) Oklahoma	1968	Provided manpower demand and supply information to Vocational and Technical Education administrators.	Information to several State agencies concerned with manpower planning, followup of vocational students after one, three, and five years. Personnel training information.
Program Review for Improvement, Development, and Expansion (PRIDE) in Vocational Education Ohio	1970	Initiated in eleven (11) of Ohio's 104 Vocational Education Planning Districts.	Completed program review for 90 planning districts, will have the rest complete within two years. Unemployment rate for vocational program graduates one-fourth the National average for that age group.
SPAN: Systems Program Approaching Non-unemployment of Vocational Students Tennessee	1970	Job Guidance and Placement center including co-op work experience, elementary instructional television series for career exploration.	SPAN being implemented throughout Memphis. Tennessee legislature has passed a bill requiring all high schools to provide Vocational Education opportunities for at least 50% of the students Statewide.

Table 1 - Continued

Project Title	First Funded	Original Impact	Current Impact
Vocational Follow-up System Minnesota	1970	Data gathering instruments developed to provide information on student population, program termination, and student and employer follow-up.	Follow-up data on students from all thirty-three (33) area vocational schools in Minnesota provided to State agencies and area school directors, used in program planning and evaluation.
Mountain Plains Project Montana	1971	Twelve families in pilot project. Total family career education including home management and job training, for disadvantaged families.	Currently enrolling between 199 and 210 families, 480 families have completed the program.
Forecasting Guide: Employment/Enrollment; A Management Information System Project Washington	1971	Development of a method of analyzing and displaying employment and enrollment information.	Highly reliable planning information source used by major State and local educational agencies throughout Washington. Directly influences State Plan. Over 100 occupations analyzed.
Curriculum for Planning (Project Next Step) Utah	1971	Planning guide developed for local school districts. Combined with 5-State project on curriculum planning funded through two other USOE agencies.	Hundreds of workshops conducted in many States to train educators in methods of conducting needs assessments. Statewide commitment to career education in number of States.

Table 1 - Continued

Project Title	First Funded	Original Impact	Current Impact
Toward Accountability Arizona	1971	New guidance and counseling program piloted in 16 schools with 8,200 students.	Systematically planned and evaluated, objectives-based instructional and counseling activities. Methods for measuring outcomes in affective domain determined. Expanding throughout district.
Bread and Butterflies Agency for Instructional Television	1972	Personnel from 34 States wrote portions of career development program - some VEA funded, most using State funds.	Complete program available being used throughout many States and in selected locations in others of the 34.

Source: Data as compiled from telephone interviews with project directors and from final reports of projects.

Chapter II

Nature of Impact

Introduction

In this chapter the distribution of funds to the States under Part C, Part D, and Part I of the Vocational Education Amendments of 1968 (VEA) has been tabulated. Following the description of the tables, the nature of impact of those parts has been explained in separate sections. Each section has been divided into a description of how the information used to determine impact was compiled followed by an interpretation of the nature of the impact of that part. The chapter closes with a brief summary as to the nature of impact of all three parts.

Any attempt to report on the impact of funds expended for the purposes outlined in Parts C, D, and I of the 1968 Amendments has a tendency to run aground on the variety and number of programs being implemented in every State. In an effort to impose some order on the wide-ranging set of programs, classification schemes have been devised for each of the three parts.

There are at least two broad parameters of impact, the intended impact and the actual impact. The actual effects on the Nation, State, city, and individual citizen that may have been caused by every one of the more than 2,000 projects funded cannot be easily determined--it may even be impossible. However, while determination of actual impact may sometimes prove infeasible, a good deal of useful information may be obtained by determining the intended impact, for intention clearly describes the mood of the policy makers within the educational system, of those who wrote project proposals, and of those who have approved and funded the projects.

The Impact: Description of Information Collected

Prior to attempting a classification scheme of intended impact for the many programs conducted under Parts C, D, and I of the VEA, an effort was made to gain an overview of the magnitude of the results and the related funding. Calls were made to project directors and final reports were read. Lists of projects from the U.S. Office of Education (USOE) and from Research Coordinating Units (RCUs) were examined. Tabulations of the results of those early efforts have been listed in Table 2 and Appendix A. From 1965 through 1969, all research, development, and exemplary projects were conducted under section 4(c) of the VEA. The total funding for that section for the five-year period was $61,850,850. When the funding under the 1968 Amendments of the VEA became available in 1970, three categories had been established. During the five-year period from FY 1970 through 1974, $90,844,000 was provided for Part C, to be used for research and development; Part D was alloted $77,000,000 for exemplary programs; and $18,000,000 was provided under Part I, to be used for curriculum development.

When the three separate categories were established in 1968, provision was also made to divide the funds allocated under Part C and Part D into two sections. Half of each part was to be administered by the State, apportioned according to a formula. The other half was to be used by the Commissioner as discretionary funds to set up projects in each of the States.

The funding distribution by State for Fiscal years 1970-1972 has been listed in Appendix A, showing the amounts obligated to each State under Parts C and D, Commissioner's discretionary funds and State-administered funds, and Part I, which was all under the Commissioner's discretion. Most of the Part D Commissioner's projects have been funded for a three-year period beginning in 1970 or 1971. In eight States and two Territories, a second Part D Commissioner's project was begun before the end of Fiscal year 1972. California had two such projects for a total of three Part D Commissioner's projects shown in this table.

Table 2 lists, for each State, the total number of projects and the total funds shown in Appendix A. These totals include the projects done during FY 1970-1972 plus selected projects from the years 1965-1969.

The numerical data listed for projects in 1972 was almost exclusively gathered from the Commissioner's discretionary career education projects. In only a few States was information available in any convenient form for any of the State-administered projects. While it was possible to obtain lists of project directors, with their telephone numbers, the sheer number of projects made the time and costs required for any comprehensive follow-through prohibitive.

Several project directors who conducted projects during the 1965-1969 period were called and interviewed about the results of their projects. Where methods and materials had been published or where groups in other States had set up related projects, an impact was relatively easy to see. But many of the early projects were workshops or conferences for teachers from many States. Whether those made any noticeable changes in the schools and the lives of students was not consistently possible to determine. Table 2 only shows the numbers of teachers and the spread of States they came from.

Part C: Description of Information Collected

Because the money appropriated for Part C of the Vocational Education Amendments of 1968 was to be spent for research-related activities, five categories indicating the five major steps in research have been used to classify the various programs funded: identification, clarification, solution, implementation, and evaluation. The programs were also classified as to which part of the educational system they were primarily aimed to impact. Those three categories were instructional, administrative, and policy. The resulting classification scheme was a 3 X 5 matrix as shown in the front layer of Figure 5. Thus, if a project was aimed primarily at affecting the instructional process, for example, through the development of a vocational curriculum, the project was classified as an instructional solution. An additional dimension was added to the matrix by including the administrative levels of local, State, and Federal government. For instance, if the program funded was a Statewide occupational survey for the State advisory board or department of Vocational Education, the project was classified as Statewide, policy, clarification, or category Q_{1212}. Since the government dimension indicated at least to some degree the intended effect in terms of the governmental range of impact it has been referred to as the impact scope.

Table 2

Numerical Data Collected by Interviews with Project Directors for Selected Projects Funded under VEA of 1963 Section 4(c) and Amendments of 1968, Parts C, D, and I.

State	Total Number of Projects	Total Federal Funds 1970-72	INFORMATION DETERMINED FOR: Number of Projects	Date	Number of States	Number of Schools	Number of Participants*
Alabama	26	$1,235,173	1	1966-67	18		39 Teachers
			1	1972	1	11	15,800
Alaska	24	678,461	10 Combined	1970-72	1	9 Districts	360+
			1	1972	1	1	500
Arizona	21	733,251	1	1965-66	Nationwide Survey	110	
			1	1972	1	16	8,200
Arkansas	37	1,096,069	1	1972	1		3,300**
California	120	7,650,759	1	1965	33		7,000,000*
			1	1966		34	224
			2	1967	50	Published by SRA and marketed worldwide	

* Numbers of participants in most instances indicate numbers served during project year. Projects for which number of participants includes diffusion have been starred. Participants are students unless otherwise indicated.

** The projects for which the numbers of schools and students are as listed in the Federal publication Abstracts of Research and Development Projects in Career Education Part C and have not been verified by Baseline are double starred.

Table 2 - Continued

State	Total Number of Projects	Total Federal Funds 1970-72	INFORMATION DETERMINED FOR Number of Projects	Date	Number of States	Number of Schools	Number of Participants
			1	1968	1		377
			1	1970-73	1	5	1,000
Colorado	70	$1,176,392	1	1970	1	50	156 immigrants plus students
			1	1971	1	17	
			1	1972	1	95	71,800
Connecticut	36	915,936	1	1970	1		120
			2	1971	1		24,700
			2	1972	1	26	20,500
Delaware	25	691,820	1	1972	1	2	1,100
District of Columbia	7	971,791	1	1972		11	19,400
Florida	36	2,209,977	2	1967	22	22	35 Teachers
			1	1971	1		5,000
			6	1972	1	24	15,000
Georgia	32	1,785,930	1	1970-72	1	Statewide Career Education	
			3	1972	1	32	28,800
Hawaii	26	597,309	1	1972	1	6	5,566**
Idaho	20	741,403	1	1970	1		425
			1	1971	1		594
			2	1972	1		11,382*

Table 2 - Continued

State	Total Number of Projects	Total Federal Funds 1970-72	INFORMATION DETERMINED FOR: Number of Projects	Date	Number of States	Number of Schools	Number of Participants
Illinois	69	$3,495,454	1	1976	1	20	20 Teachers
			1	1966-68	1	1 District	320
			1	1966	10 - 15	25	25 Teachers
			1	1967	38	150	
			1	1972	9	64	183,600*
Indiana	42	1,707,767	1	1965-67	8 plus 4 Countries (Comparative study of Vocational Program in British and U. S. schools.)	60	6,000
			2	1972	1	8	7,300**
Iowa	30	1,177,265	1	1972	1	22	18,800
Kansas	29	1,143,643	1	1967	1	11 Programs developed	
			1	1972	1	18	7,000
Kentucky	39	1,314,209	1	1967	27	27	27 Teachers
			1	1971	1	Statewide	734
			1	1972	1	91	39,800
Louisiana	28	1,534,719	1	1964-67	1		1,000 Adults
			2	1972	1	15	52,500
Maine	44	804,263	6	1970	3		3,000+
			1	1972	1	11	3,300
Maryland	43	1,297,808	1	1972	1	14	9,500

Table 2 - Continued

State	Total Number of Projects	Total Federal Funds 1970-72	INFORMATION DETERMINED FOR Number of Projects	Date	Number of States	Number of Schools	Number of Participants
Massachusetts	33	$4,246,326	1	1965			
			1	1972	1	64	34,600
			2	1972-73	36	71+	10,000+
Michigan	33	2,813,292	1	1965-68	1	1	
			1	1966-67	Development of National Teacher Educators		
			1	1970-73	1	7	2,200+
			1	1972	1	37	23,800**
Minnesota	51	1,828,909	1	1964-67	1		7,000*
			1	1971-72	1	268	20,000
			1	1972	1	50	21,000
Mississippi	29	1,333,004	1	1970-73	1	1 District	3,100
			1	1972	1	14	7,100
Missouri	99	1,706,179	1	1972	1	11	5,000
Montana	23	773,085	1	1970-73	1	16	All Helena students K-12
			1	1971-72	1	Statewide MIS	
			1	1972	1	8	6,100
Nebraska	29	828,482	1	1966-67	1	9 Child care centers established	28 Teachers
			1	1965-69	1		400+
			1	1972	1	3	758

Table 2 - Continued

State	Total Number of Projects	Total Federal Funds 1970-72	INFORMATION DETERMINED FOR Number of Projects	Date	Number of States	Number of Schools	Number of Participants
Nevada	22	$1,017,202	1	1970-73 1972	1	54	29,600
New Hamphsire	35	943,144	1	1970-71	1	6	260
			3	1972	1	15	7,100
New Jersey	52	2,495,464	1	1970	1	2 Districts	6,700
			2	1972	6	34+	50,000*
New Mexico	58	735,486	3	1971-72	1	33	15,000
New York	78	4,390,019	1	1965-68	1	12	27,800
			1	1972	1	27	37,000*
North Carolina	66	1,820,503	1	1972	1	24	14,800*
North Dakota	35	738,147	1	1970-73	1	Implemented Statewide*	
			1	1972	1	4	2,300
Ohio	78	3,705,388[1]	1	1965-70	50	2,200	420,000*
			1	1972	1	30	21,000
			9	1973	1	466	49,000
Oklahoma	61	1,322,953	1	1970	1		20
			1	1971	1		550
			2	1972	1	10	119,000*
Oregon	58	1,243,567	2	1971-73	1		2,500
			16	1972	1	38	32,200

Table 2 - Continued

State	Total Number of Projects	Total Federal Funds 1970-72	INFORMATION DETERMINED FOR Number of Projects	Date	Number of States	Number of Schools	Number of Participants
Pennsylvania	98	$3,172,144	1	1970-72	1	PENN Scripts	
			1	1972	4	35	20,600
Rhode Island	36	782,288	1	1971-72	1	Vocational Education MIS	
			1	1972	1	5	900
South Carolina	19	1,156,242	1	1972	1	3	1,910**
South Dakota	18	773,740	1	1972	1	4	4,160
Tennessee	56	1,109,009	1	1966	12	40 Hospitals	40
				1970-73	Inquiries documented from 50 States and 4 countries	21	80,000*
Texas	93	5,787,075	1	1972	1	256	255,600*
Utah	44	871,116	1	1967-69	42	300	
			1	1972	1	26	16,127*
			1	1972	5	Workshop Held For Teachers Nationwide	
Vermont	52	685,958	1	1972	1	9	890**
Virginia	40	1,548,654	1	1966	50	Spread Nationwide *	
			1	1972	1	8	5,200**

Table 2 - Continued

State	Total Number of Projects	Total Federal Funds 1970-72	INFORMATION DETERMINED FOR Number of Projects	Date	Number of States	Number of Schools	Number of Participants
Washington	111	$1,256,664	1	1967-68	3		800 contacts
			1	1972	1	7 Districts	2,000**
West Virginia	41	873,570	1	1972	1	22	9,213
Wisconsin	162	1,455,039	1	1971-74	1	21	
Wyoming	31	660,742	1	1972	1	7	3,500
American Samoa	1	9,029	1	1972		3	1,800**
Guam	2	28,028	2	1972		5	1,700**
Puerto Rico	2	775,866	1	1972	1	10	7,325**
Trust Territory of the Pacific	2	9,944	1	1972		30 teacher trainees	
Virgin Islands	2	13,602	2	1972		5	2,600

Source: Abstracts of Research and Development Projects in Vocational Education, June, 1973, USOE; Abstracts of Exemplary Projects in Vocational Education, June, 1973, USOE; State-Administered Research and Development Projects in Vocational Education, June, 1973, USOE; State-Administered Exemplary Projects, June, 1973, USOE; Data as compiled from telephone interviews with project directors and from final reports of projects.

Figure 5 shows the three-dimensional nature of the classification scheme presented. Such a figure lends itself to a numbering scheme which has been illustrated in Figure 6.

If a project was funded so as to impact a question concerning the solution to a Statewide policy problem, its identity would be Statewide, policy, solution, or more simply identified as Q_{1213}.

The data gathered for this part were taken from two annual reports published by the United States Office of Education entitled, "State-Administered Research and Development Projects in Vocational Education", and "Abstracts of Research and Development Projects in Career Education". Each of the projects funded with the Commissioner's Part C funds as reported in "Abstracts" was clearly designated as a project to implement a career education program within one or more cities in each of the fifty States and each Territory, following a strict formula. They were, therefore, not included in the matrix used to categorize the more than 700 projects funded under the State portion of Part C.

Part C: Nature of Impact

Commissioner's Part C Research and Development Projects:

Well over fifty percent of the money appropriated under Part C since 1971 has been spent for the development of career education programs. Projects approved by the USOE for career education all followed a fixed formula which essentially established the nature of the intended impact on the local educational system. The result of the enthusiastic support and implementation of the concept of career education has been documented in another Project Baseline supplementary report, "Career Education in the United States Today". The following information is given in addition to that report. The eighty-seven projects that were funded by the Commissioner's half of the Part C monies for 1972-73 had a guidance and counseling component as well as at least one of the following components:

(a) development of self-awareness and attitudes about work at the elementary level
(b) development of elementary career awareness
(c) junior high or middle school orientation and exploration
(d) senior high job preparation, work experience, and/or cooperative education
(e) placement

The types of activities described in the project abstracts have been tallied below:

94% (84) described a guidance and counseling segment
75% (65) included elementary career awareness
71% (62) included junior high exploratory and orientation activities
60% (52) included a placement emphasis
44% (38) planned senior high occupational preparation courses
28% (24) described an elementary self-awareness component

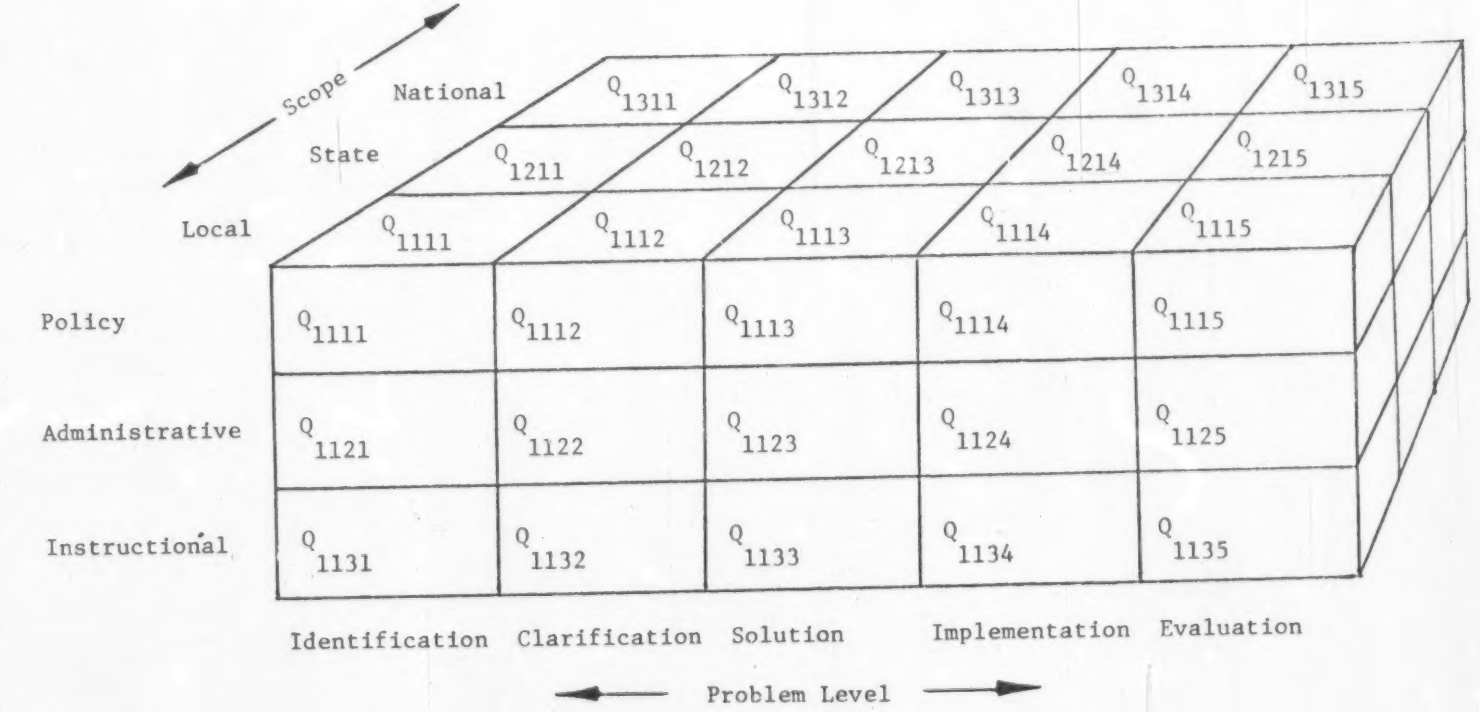


Figure 5. Representation of Categories for Classification of Intended Impact of State Administered Part C funds, VEA.

Q Stands for Question

Q_{ABCD}

A: Type of Impact	B: Scope of Impact	C: System Level	D: Problem Level
1 = Intended	1 = Local	1 = Policy	1 = Identification
2 = Actual	2 = State	2 = Administrative	2 = Clarification
	3 = National	3 = Instructional	3 = Solution
			4 = Implementation
			5 = Evaluation

Figure 6. Matrix Classification of Programs Related to the Impact of Funds Spent Under Part C, State-Administered Research and Development Projects, VEA, as amended in 1968. Example: Q_{1225} means the intended (1) impact of a project designed to provide at the state (2) level an administrative (2) evaluation (5).

In addition to the required statements some interesting components seemed worth mentioning:

15% (13)	provided for post-secondary occupational programs
9% (8)	were combined with Part D programs
7% (6)	planned vocational information systems with manpower needs information
6% (5)	included the establishment and use of behavioral or performance objectives
1% (1)	planned to include a management information system

It was obvious from the project abstracts that the activities described were not necessarily the only activities being provided the students at the project sites. The elements described were those the Part C funds were to be used for, and other elements were being provided by State or local agencies or from other forms of Federal funding. According to the classification scheme, all of the projects under the Commissioner's Discretionary Funds fit into at least one of the four categories Q_{1123}, Q_{1124}, Q_{1133}, Q_{1134}. Also each project was required to submit an evaluation, Q_{1135}.

State-Administered Research and Development Projects:

While the USOE Commissioner's discretionary money over the past several years has been spent on the development of career education, no such direct control was placed on the State-administered Part C money. It has been through the analysis of how the State-administered money was spent that a better understanding of the probable nature of the impact of the Part C funds was acquired, since the funding and approving policies of each State were relatively free to reflect the essential mood of the research personnel throughout the Nation.

Over 700 projects were funded in Fiscal years 1971, 1972 and 1973, at the State level. Each of these projects was categorized and entered into the appropriate block for its funding year. The data generated have been included in Appendix B. Summary graphs for the three years analyzed were made in terms of percent of total money spent for that year and included in Figures 7 through 9. From Figure 7 the following observations were made.

During the three years studied, over fifty-six percent of the money spent was proposed to affect instructional questions, thirty-two percent of the money spent was designed to affect administrative questions, and twelve percent was directed at policy questions. For Fiscal years 1971 and 1972, the amount of money used by the States was distributed about half and half between projects at the local level and those affecting all or a major portion of the State. A little less than one percent was spent on projects designed to affect more than one State, those projects being classified as National in scope.

An apparent shift in funding policy, National in its effect, changed the distribution of funds for Fiscal year 1973. The money was moved from supporting instructional questions (down four percent) equally at the

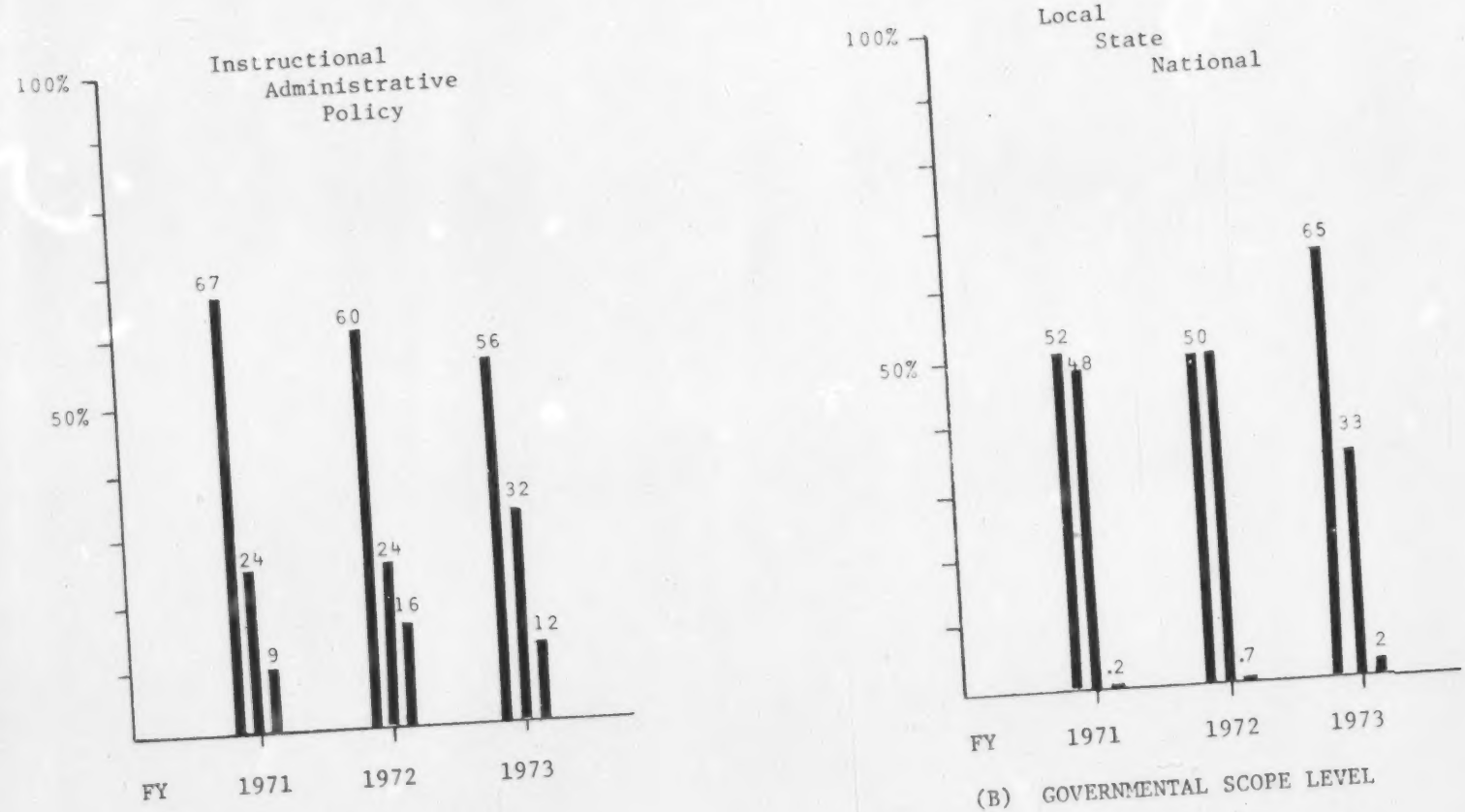


Figure 7. A Plot of the Percent of Total State-Administered Portion of Part C, VEA, Funds Expended Versus Fiscal Year at: (A) The System Level, and (B) The Scope Level

Source: Analysis of data in Appendix B.

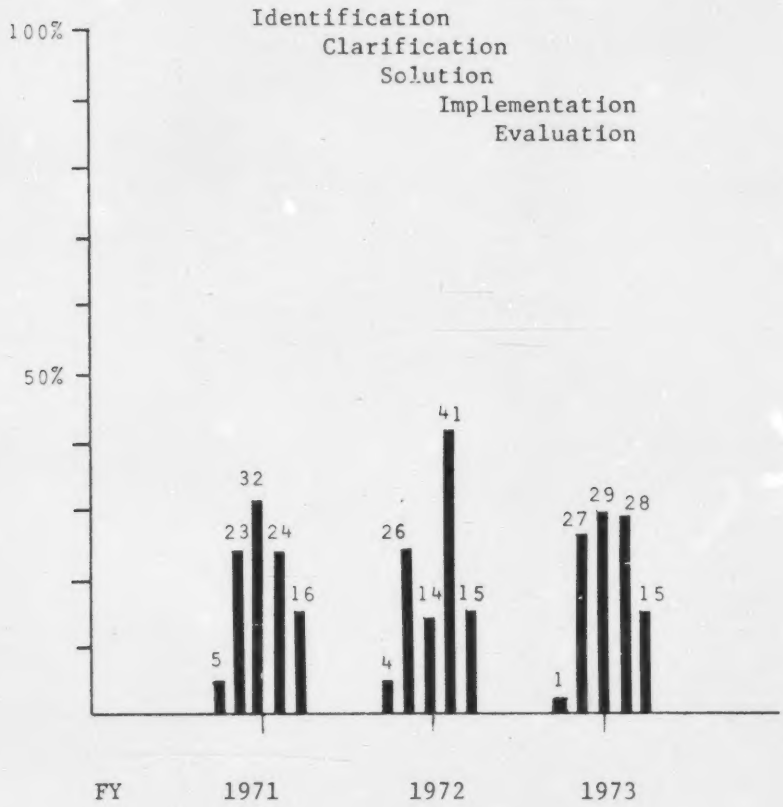


Figure 8. A Plot of the Percent of Total State-Administered Portion of Part C, VEA, Funds Expended Versus Fiscal Year at the Problem Level

Source: Analysis of data in Appendix B.

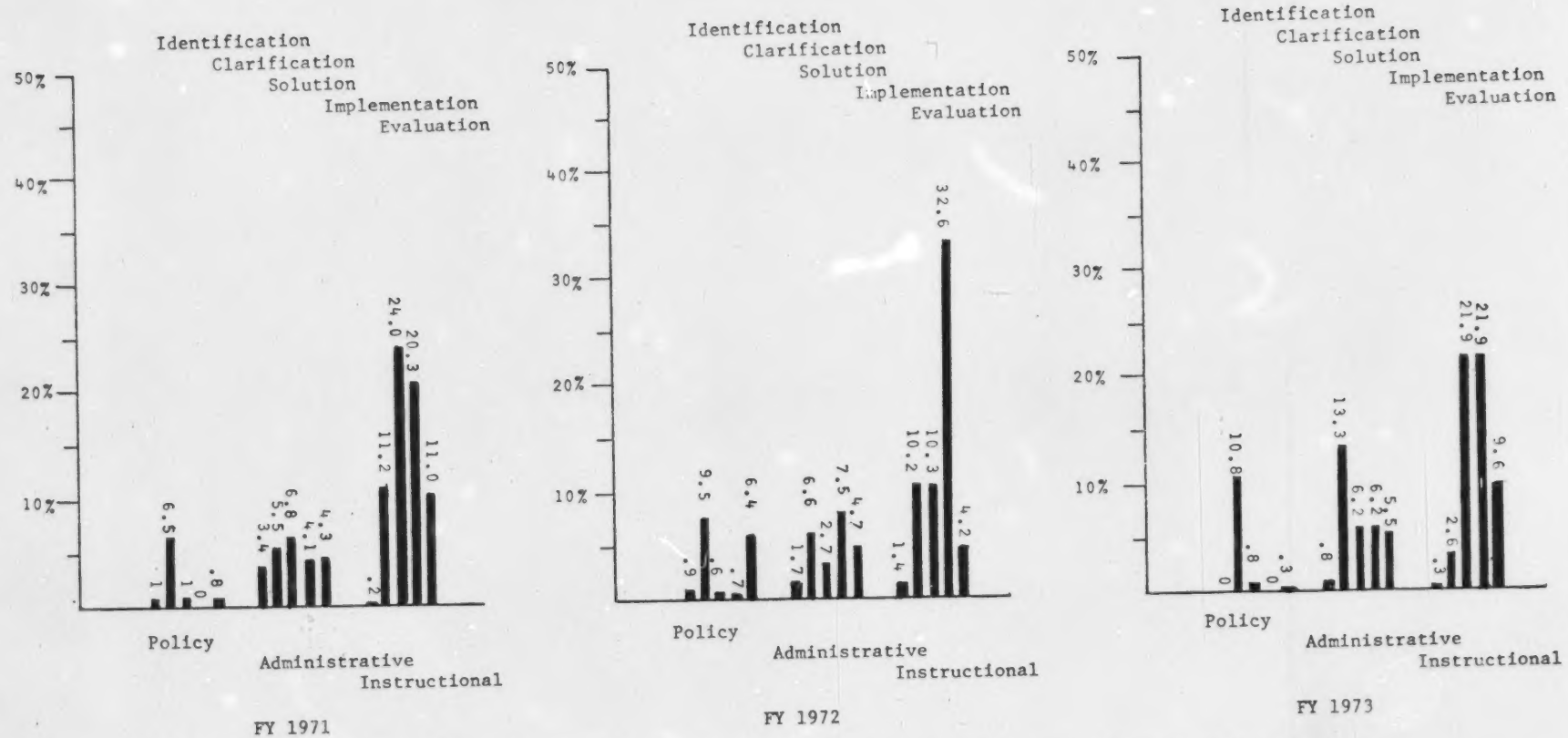


Figure 9. A Plot of the Percent of Total State-Administered Portion of Part C, VEA, Funds Expended by Problem Level Versus System Level over Total Governmental Scope for each of the Three Fiscal Years 1971-1973

Source: Analysis of data in Appendix B.

State and local levels and from policy questions (down four percent) to questions dealing with the local administrative systems (up eight percent). The only clear trend from the data synthesized from Figure 7 was that the funding effort for questions concerning the instructional process has been decreasing at about five percent per year, giving the impression that this trend will continue through Fiscal 1974.

Figure 8 has been developed as a summary for the problem level of the data compiled in Appendix B. Projects concerned with questions about problem identification such as, "A Review of Literature to Identify Innovative Curricular Materials in Vocational Education", have received less than five percent of the total money spent over the last three years, and evaluation projects have steadily received about 15.5 percent of those funds.

The bulk of the money, slightly less than eighty percent, has been distributed about equally between problem clarification, solution, and implementation.

Figure 9 illustrates the total funds for the fifteen categories during Fiscal years 1971, 1972, and 1973. Instructional solution and implementation have received the bulk of the funds, while the support for clarification was moved from instructional questions in Fiscal years 1971 and 1972 to administrative and policy questions.

Figure 9 also indicates that very little money from Part C has been expended over those years on the study of questions referring to policy solution or implementation. The major National impact of the money spent under Part C has been at the local level in clarifying, solving, and implementing instructional questions. Each State has, of course, its own impact characteristics that can be determined by developing charts similar to those present in this chapter from the information provided in the appendix.

Part D: Description of Information Collected

The classification scheme or taxonomy that was developed for Part C did not apply to Part D so another scheme was devised. The classification of projects aimed at impacting the development of "new ways to create a bridge between school and earning a living for young people" was taken directly from the categories established in Part D of the 1968 Amendments, and a three-dimensional matrix was developed as illustrated in Figure 10. While Figure 10 may not represent the best taxonomic scheme that could be developed, it has served the purpose of a taxonomy in that it has provided a systematic approach to the classification of projects as well as a method of illustrating areas of project effort. As in Part C, subscripts have been used to aid in listing the categories. The classifications for each number in the subscript have been shown in Figure 11.

Part D: Nature of Impact

Commissioner's Part D Exemplary Programs:

The total Commissioner's Part D money spent for programs funded

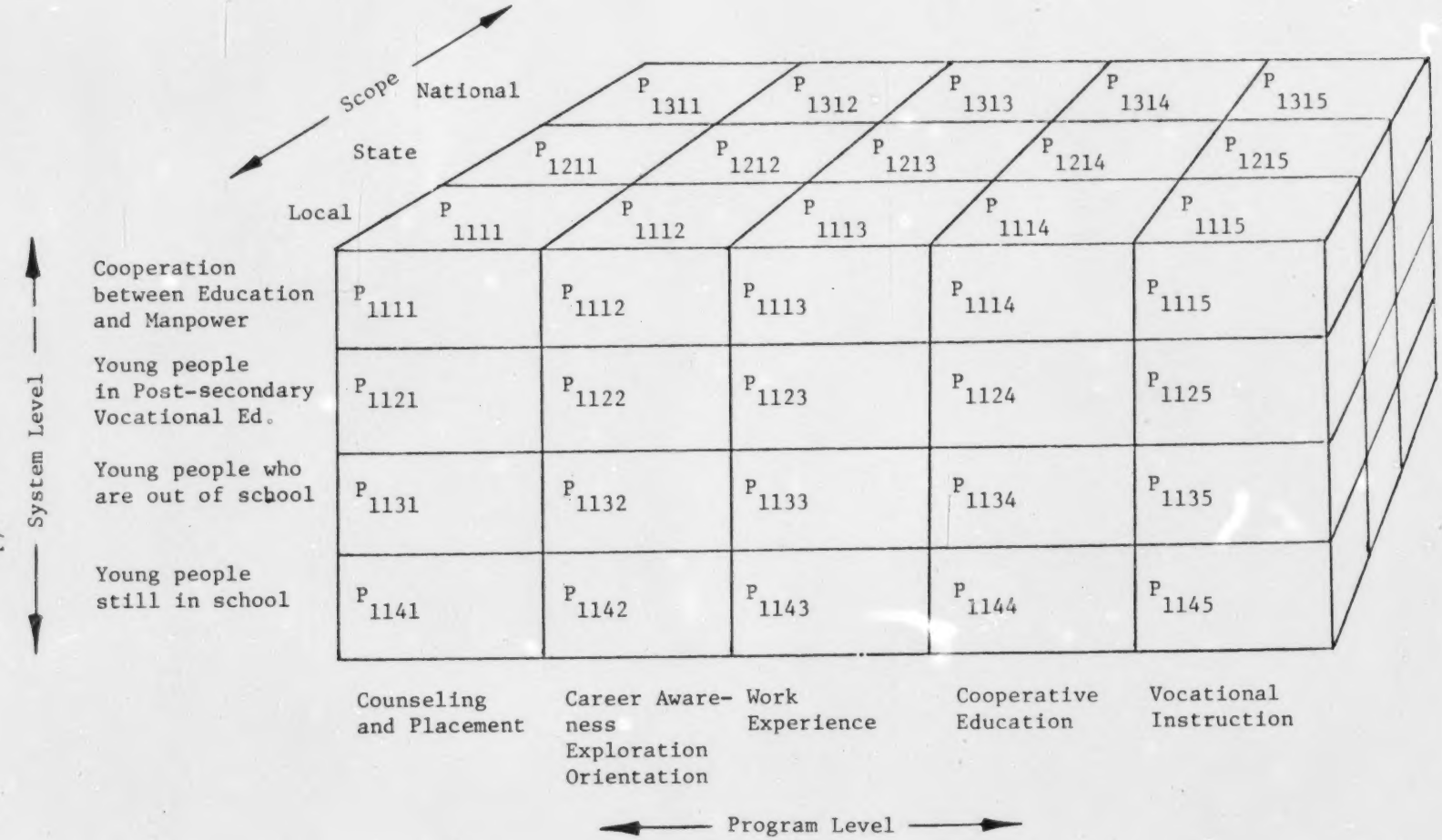


Figure 10. Representation of Categories for Classification of Intended Impact of State-Administered Part D Funds, VEA.

P Stands for Program

P_{ABCD}

A: Type of Impact	B: Scope of Impact	C: System Level	D: Program Level
1 = Intended	1 = Local	1 = Cooperation Between Education and Manpower	1 = Counseling and Placement
2 = Actual	2 = State	2 = Post-secondary	2 = Career Awareness Exploration and Orientation
	3 = National	3 = Programs for Out-Of-School Youth	3 = Work Experience
		4 = Programs for Young People in School	4 = Cooperative Education
			5 = Vocational Instruction

Figure 11. Matrix Classification of Programs Related to the Impact of Funds Spent Under Part D, State-Administered Exemplary Projects, VEA, as Amended in 1968.

beginning in the Fiscal years 1970-72 and ending during Fiscal years 1973-1975 was $22,820,721. Out of the sixty-seven projects funded, eight States, Guam, and Puerto Rico were funded for two projects each, and California had three projects. Each of the other States and Trust Territories was allotted one project under the Commissioner's Discretionary Funds.

Out of the sixty-seven projects funded:

88% (59) had cooperative education portions at the high school level (P_{1144}).
54% (36) were primarily career education in the more limited sense (P_{1142}).
18% (12) were coordinated with the model cities program and nine directly mentioned out of school youth (P_{1131}, P_{1135}).
16% (11) included statements directed toward cooperation between industry and education (P_{1112}, P_{1114}).
15% (10) had strong occupational segments (P_{1125}, P_{1145}).
4% (3) had cooperative education at the college level (two of those were among the States with similar programs for high school students) (P_{1124}).

State-Administered Exemplary Programs:

Of the State's portion of Part D money spent, the greater share went to programs for students who were still in school, a surprisingly constant seventy-four percent over the three years classified (Figure 12). About twenty-three percent of the funds were spent for post-secondary Vocational Education. The stability of the levels in both of these areas indicates a strong National tendency that may be expected to continue unless a major shift in the funding emphasis is introduced.

A small percentage of the total funds was used to fund projects for cooperation between education and labor (one percent) and for out-of-school youth (two percent). It would have been interesting to compare the amounts spent from the Commissioner's Discretionary Funds from above to the amounts spent by the States for those two categories, but the Commissioner's funds could not be broken down in terms of the actual dollars spent for the various parts of each project.

Figure 13 summarizes the information in Appendix C in terms of the money spent in the areas of program development stipulated in the 1968 Amendments. The bulk of the money, forty-two percent to fifty-five percent, was spent for career awareness programs. Vocational instruction received around thirty-four percent over the three-year period, while counseling diminished from twenty percent to 8.7 percent. Cooperative education and work experience received less than three percent during each of the three years studied.

During March 1974, the National RCU Personnel Conference "The Score After Nine" was held in Arizona. Each State was invited to submit three resumes of outstanding research and curriculum projects recently completed

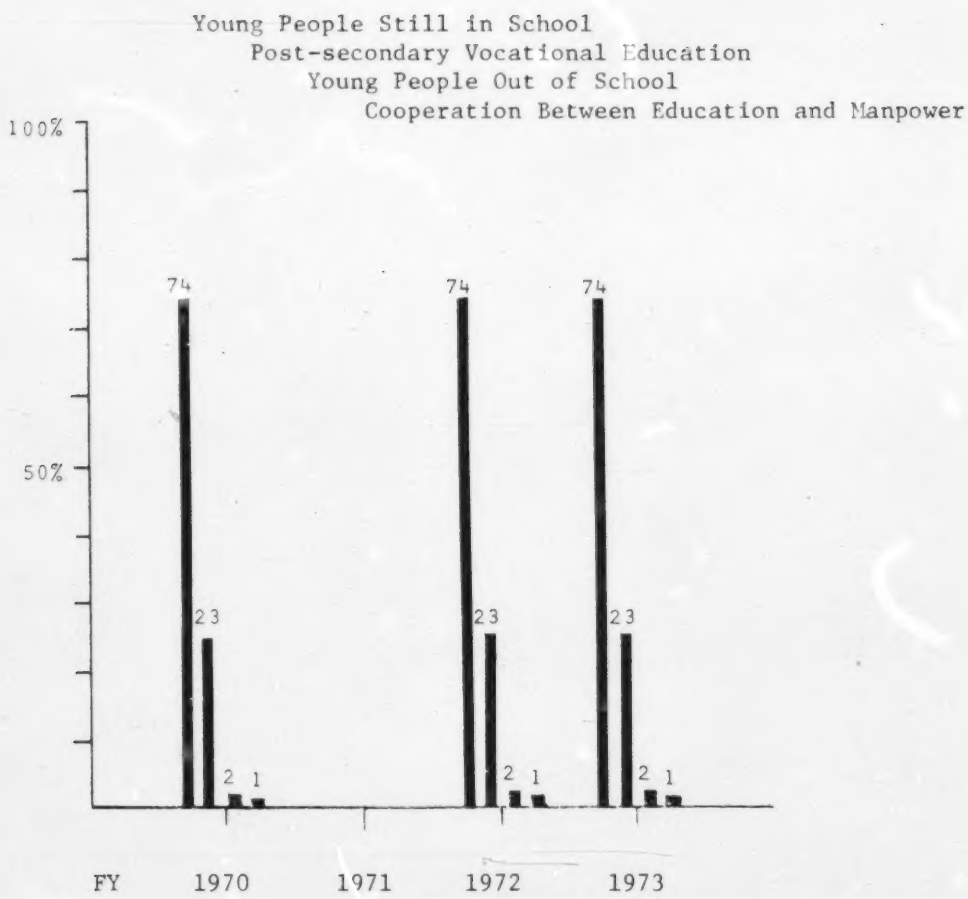


Figure 12. A Plot of the Percent of Total State-Administered Portion of Part D, VEA, Funds Expended Versus Fiscal Year at the System Level

Source: Analysis of data in Appendix C.

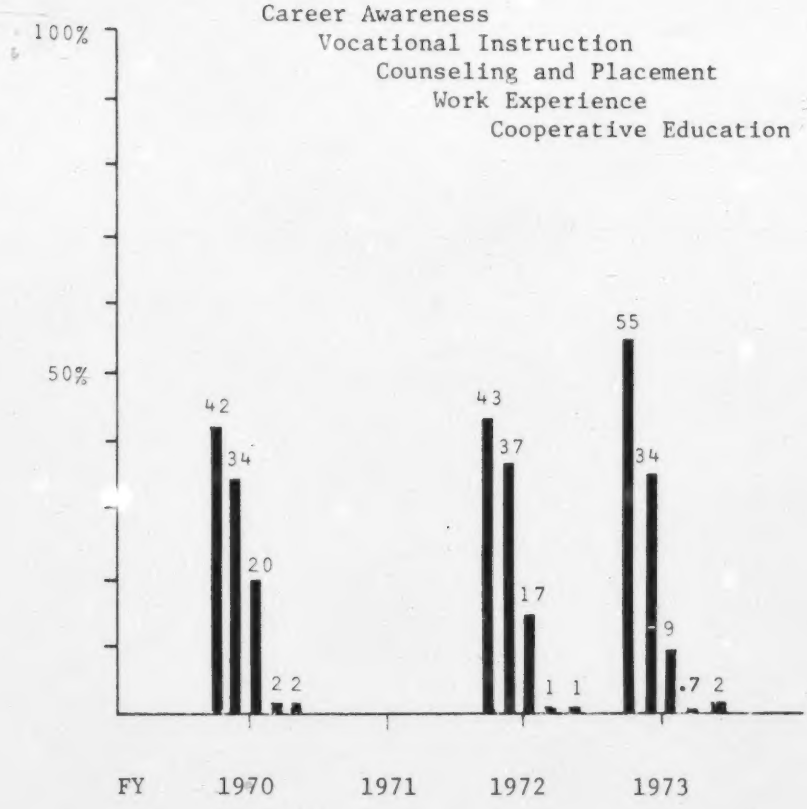


Figure 13. A Plot of the Percent of Total State-Administered Portion of Part D, VEA, Funds Expended Versus Fiscal Year at the Program Level

Source: Analysis of data in Appendix C.

or being conducted by the RCU. Formal presentations at the conference were chosen from among the forty-eight resumes submitted. The projects described in the resumes have been classified using the scheme described for Part D, even though the information available did not tell what part of the VEA the projects were funded under. In fact, some of the projects were wholly State funded through the RCUs. Two projects were divided between two categories, while a third, a research-development product dissemination system, could affect all categories.

This set of projects does not represent a complete, nor even a good random sample. Only thirteen States submitted three projects, and less than half the States submitted any at all. No conclusions can be drawn about the relative merit of projects done by States not submitting resumes. In any such State where the writers were able to talk with RCU directors, projects were being conducted which appeared equally outstanding. The pattern exhibited by this small set of projects differed from that of the total set of Part D projects in some noticeable ways. Whether this was because of the small sample, or because the projects were chosen by RCU people was not known.

Of the programs described by the resumes submitted, all but the dissemination system fit into only six of the twenty categories described for the problem-system level of Part D. The major emphasis of twenty-nine of the forty-eight projects (sixty percent) was in vocational instruction, with two-fifths of those at the secondary level, two-fifths at the post-secondary level, and one-fifth relating to cooperation between education and manpower. The other eighteen projects were primarily aimed at career development, with one-fourth of those in guidance and counseling, one project emphasizing cooperation between education and manpower in career education, and nearly three-fourths of the eighteen in career awareness and exploration.

Almost a fourth of the career development projects and nearly a third of the vocational projects were mainly devoted to evaluation or assessment, whether of programs or of manpower needs. More than a fourth of the vocational programs involved the development of self-paced instructional units. The remaining programs, over a third, were aimed at the development of curricula for programs in an assortment of occupational areas (Figure 14).

Part I: Description of Information Collected

In March of 1974 the Curriculum Development Branch of the Division of Research and Demonstration released two reports that refer to the National impact of Part I. The reports are titled, "Curriculum Development for Vocational-Technical and Career Education Under Part I, Vocational Education Amendments of 1968", and "Part I, Curriculum Development, Vocational Education Amendments of 1968", respectively.

The first report is quite lengthy and has been summarized in Table 2. The second report, which is much shorter, has been included in Appendix D.

These two reports suggest three sets of categories. The first set refers to agencies that the USOE can contract with. These agencies are:

	Guidance and Counseling	Career Awareness and Exploration	Cooperative Education	Work Experience	Vocational Instruction	
Cooperation Between Education and Manpower	P_{1111}	P_{1112} Curriculum: 1	P_{1113}	P_{1114}	P_{1115} Curriculum: 2 Assessment: 2	
Young People in Post-secondary Education	P_{1121}	P_{1122}	P_{1123}	P_{1124}	P_{1125} Curriculum: 2.5 Self-Paced: 6 Assessment: 2	
Young People Out of School	P_{1131}	P_{1132}	P_{1133}	P_{1134}	P_{1135}	
Young People Still in School	P_{1141} 4.5	P_{1142} Curriculum: 8.5 Assessment: 4	P_{1143}	P_{1144}	P_{1145} Curriculum: 5.5 Self-Paced: 2 Assessment: 5	

Figure 14. Numbers of Projects From the 1974 RCU Conference "The Score After Nine" In Each Category, Classified According to the Part D Method

(a) colleges or universities
(b) state boards or other public nonprofit agencies
(c) public or private agencies, organizations, or institutions

The second set of categories was taken from the 1968 VEA Amendments which refers to the various tasks of curriculum development:

(a) development and dissemination of Vocational Education curriculum materials
(b) development of standards for curriculum development
(c) coordination of the preparation of curriculum materials
(d) survey of curriculum materials produced by other agencies
(e) evaluation of Vocational-Technical Education curriculum materials
(f) training of personnel in curriculum materials

A third set of categories was suggested in the report, "Curriculum Development for Vocational-Technical and Career Education under Part I, Vocational Education Amendments of 1968", and adds another dimension to the impact of Part I funds as shown in Figure 15. This set refers more to target groups that curriculum materials have been designed to impact. These categories as listed on page two of the "Curriculum Development Report", are:

(a) development of vocational curricula, with emphasis on
  i. occupational clusters
  ii. basis for curriculum decisions
(b) general career education curricula
(c) emerging and expanding occupations at the post-secondary level
(d) groups with special needs
(e) training personnel and familiarization of teachers with learning packages
(f) National network for curriculum coordination
(g) distribution of government curriculum materials

The seven categories just mentioned above appear in the summary of the Part I impact in Figure 15.

Since the agencies to which the government can contract did not appear in either report referred to earlier, an additional figure has been developed with categories showing the amount of money that has been granted to various agencies compared to the various curriculum tasks as stipulated by the 1968 amendments. These data appear in Figure 16.

Part I: Nature of Impact

Care must be exercised in the use of information as provided in Figure 15. The number of students, teachers, universities or colleges, members of business and industry, and students cannot be added from category to category. That is, those 3,012,100 students touched by the career education curriculum efforts could also be in large part those students who have been tallied in special needs or personnel training.

CATEGORY	DEVELOPMENT				TESTING					DISSEMINATION		
	Teachers	States	Univ. or Colleges	Ind. or Business	Students	Teachers	Schools	Cities	States	To States	To LEAs	Copies Distributed
VOCATIONAL CURRICULA	225	48	117	138	22,592	546	149	145	50	50	4,290	41,730
CAREER EDUCATION CURRICULA	97	18	313	77	3,012,100	774	17	15	50	50		30,950
EMERGING OCCUPATIONS CURRICULA POST-SECONDARY	1,802	50	269	1,369	15,965	1,787	263	1,184	50	50	444	3,900
SPECIAL NEEDS CURRICULA	38	10	19	72	5,375	70	0	10	7	-	-	-
PERSONNEL TRAINING	500	50	101	15	70,006	2,000	400	200	42	50	200	-
NATIONAL CURRICULUM NETWORK	Impact on some 5 million students, 780 thousand teachers, 75,000 State staff, 17 thousand members of business and industry, and over 50 thousand speeches and articles											
DISTRIBUTION OF MATERIALS	Eighty thousand copies of curriculum materials reaching the field in seven vocational areas											

Figure 15. Summary of the March 1974 Report of the United States Office of Education Curriculum Development Branch

Source: Report from the USOE Curriculum Branch, March, 1974.

While the statement, "... the impact is self-evident," concerning the extensive efforts as reported and summarized in Figure 15 may be true, the data do not at all make clear what the kind of impact, the scope of impact, or the long-term effects of the impact are. Thus, while the information from Table 2 may be used to report activity it cannot be easily used to get at the nature of impact.

The expenditure of $1,279,180 from late spring of 1972 through the winter of 1973 to develop a National curriculum network appears to have touched the lives of over five million people. The money most likely has also had a profound impact on the location at which the centers have been established. Thus, five State Divisions of Vocational Education--California, Illinois, New Jersey, Oklahoma, Washington--and two universities--University of Kentucky and Mississippi State--have been impacted by being chosen as one of the seven National curriculum distribution centers. The effects of that impact have not been determined in this study.

While continuing the investigation along the lines of the impact of Federal funds and how the selective use of those funds may affect the nature of Part I impact, Figure 16 was developed. In terms of the broad scope of the way money has been used to affect the two sets of basic parameters stipulated within the 1968 Amendments with regard to Part I, Figure 16 makes clear that the money was not evenly dispersed across all possible categories. Upon examination of Figure 16, the question as to the nature of the funding policy used to determine the areas of funding comes to mind. Of the total money, which requires no matching funds, 1.5 percent went to the independent school districts, often the agencies that have the most difficulty in coming up with "in kind" matching. State departments and State boards received twenty-two percent of the funds while 34.3 percent was granted to universities and 39.6 percent was used to subsidize private concerns. Over thirty-five percent ($4,822,619) compared to the 34.3 percent total grants to universities, was used to fund the Technical Education Research Centers (TERC) for their development and dissemination of Biomedical Equipment Technology (BMET), Electro-Mechanical Technology (EMT), Nuclear Medicine Technology (NMT), and Laser and Electro-Optical Technology (LEOT) curricula.

If money can be used as a measure of impact, and Figure 15 suggests that it can, the most profound impact of Part I money has been on curriculum development, with 82.7 percent of the money granted spent for that effort. Coordination, primarily the money to operate the seven centers in the National Curriculum Coordination Network, got about 6.8 percent of the money. The others, personnel training (2.6 percent), basis (2.5 percent), dissemination (2.2 percent), and surveys and inventories (0.4 percent) follow with less than eight percent of the total combined.

While each curriculum development project has a dissemination component, the impact of Part I has still been primarily one of development. The seven curriculum coordinating centers, since being established, have received less than seven percent of the funds expended for Part I and less than twenty percent of the amount spent on private agencies or the

	BASIS	SURVEYS AND INVENTORIES	COORDINATION	DEVELOPMENT	TRAINING OF PERSONNEL	DISSEMINATION	TOTALS
UNIVERSITIES	$177,989 1.3% (5)	$25,000 .2% (1)	$ 360,000 2.7% (2)	$ 3,674,594 27.4% (14)	$349,678 2.6% (2)	$ 20,000 .1% (2)	$ 4,607,261 34.3% (26)
STATE DEPARTMENTS AND STATE BOARDS	-0-	25,000 .2% (1)	919,180 6.8% (5)	2,014,323 15.0% (11)	-0-	30,000 .2% (3)	2,988,503 22.2% (20)
INDEPENDENT SCHOOL DISTRICTS	-0-	-0-	-0-	200,000 1.5% (1)	-0-	-0-	200,000 1.5% (1)
PRIVATE COMPANIES	96,697 .7% (1)	-0-	-0-	5,226,472 38.9% (13)	-0-	-0-	5,323,169 39.6% (14)
OTHER	59,729 .4% (2)	-0-	-0-	-0-	-0-	249,230 1.9% (1)	308,959 2.3% (3)
TOTALS	334,415 2.5% (8)	50,000 .4% (2)	1,279,180 9.5% (7)	11,115,389 82.7% (39)	349,678 2.6% (2)	299,230 2.2% (6)	13,427,892 100% (64)

Figure 16. Representation of Categories Used for Classification of Intended Impact for all of Part I Funds, VEA, Curriculum Development

Source: Curriculum Development for Vocational-Technical and Career Education under Part I, Vocational Education Amendments of 1968, USOE, Curriculum Development Branch, March 27, 1974.

universities. No significant amount has been spent on establishment of a basis for curriculum development, or surveying the current curriculum development effort throughout the Nation. Hopefully, these are known or cost very little to do. The questions answered by establishing a basis and surveying are essential for sound curriculum development.

Summary

When the study of the nature of impact was begun the number and variety of projects seemed to be chaotic. The classification schemes developed were completed in an effort to lend some order to the sorting process. They have been successfully used to reduce an enormous quantity of information into a reasonable amount. No doubt there are a few projects that have been misclassified. A question may also be raised as to the validity of the classification scheme in tabulating the projects by project title. Words do communicate and funding officers are sensitive to the titles of projects and the intent and procedures outlined in those projects. The several thousand people involved from the conception of the projects through their final approval have been trusted to have made certain that the major intent of the projects has been reflected in their titles. The numerous conversations and interviews with project directors held during the course of this investigation seemed to bear out that trust. Because of the nature of impact and data currently available, other methods of attack have proved unrealistic in terms of the time, money, and material available.

The nature of impact deduced from the descriptive information made available is encouraging. For given the amount of money available, the progress that has been made in such areas as management information systems, curriculum coordination, task analysis procedures, performance objectives, guidance systems, and other areas seems to be very significant. In addition, there are a number of project efforts that are simultaneously developing and look like they may emerge into a National network of research and development groups that will work collectively with the state RCUs. They will share information and reduce duplication of effort while retaining the confidentiality of the private citizen.

The nature of the impact developed from the statistical data available has not been too startling, and this may be its most serious criticism. The theme of career education has been implemented throughout the States and Trust Territories. This theme has been imposed through the use of a strict program approval policy, a bold and courageous move on the part of the USOE. It has not been carried out without some criticism. Most States, following the leadership of the USOE have also freely implemented career education programs using their portion of the research funds in addition to other Federal revenues as well as their own State money.

In reviewing the data generated from Parts C, D, and I of the VEA, the programs funded seem to reinforce much that has been done and much that has been omitted in the past. This may or may not have been the deliberate intent of those involved. Little research money has been directed into questions concerning the problems of the acceptability of

Vocational Education at the administrative and policy level of the educational system, an area well known to have a considerable reserve in providing vocational programs either for students in or out of school, normal or with special needs. The data available raise suspicions that there is a bias to support the universities rather than developing other agencies that may be more accepting of the problems and concerns of the vocational, non-college student. Few resources seem to have been directed to the most significant intent of Part D, helping those out of school who are facing socio-economic hardship through unsuccessful job hunting.

Those currently enrolled in school need help and can possibly be helped through career education programs. However, more emphasis on the cooperation between education and manpower and the resulting effect upon the very successful methodology of cooperative education should, even must, be encouraged. It is just not possible to direct a system without priorities, and while the priorities have been established in broad terms by law they cannot all be attained. In such a situation, when objectives requiring more resources than are available are established, priorities are developed as to which objectives will be favored. This choosing process becomes very sensitive to the basic beliefs of those in positions of authority to whom the money has been trusted.

In effect, the administration of Parts C, D, and I monies is very similar to that which has existed in the comprehensive public school system, as illustrated in this chapter. Most of the funds went to the general education program in order to redirect it toward a stronger emphasis on careers. The next highest category was funding for in-school vocational students, with the least amounts directed to out-of-school youth and the development of improved relations with business, industry, and labor.

Chapter III

Conclusions and Suggestions

Introduction

Statistical evidence about the impact of programs funded under the research and development portions of the Vocational Education Act of 1963 and the Amendments of 1968 (VEA) was sparse at best. In many of the more recent programs the impact has barely begun to emerge, and in the earlier programs it was very difficult to determine. Even though not all of the impact could be traced, Congress should be strongly reinforced by the evidence of the disproportionately great impact that has occurred through the development of research in each of the States of the union. The State Departments of Vocational Education working in partnership with the RCUs have provided the means by which significant changes have been made in the educational system of the Nation. Today this partnership continues its leadership in all forms of educational research and provides ready groups under State control that can quickly impact the local educational process.

This much has been readily apparent while reading some of the descriptive materials that have been written in final reports in an effort to convey to readers what the impact of the projects has been. But there has been so little standardization of the meaning of impact that it was almost impossible to form any comparisons from one project to another. The chief problem encountered in compiling the information for this report has been the development of some methods by which the enormous amount of descriptive information and financial data could be synthesized into some manageable amount.

There were times when it almost seemed as though specific results were not wanted, as if the results might not be what the people who were conducting the projects wished to believe. But part of the problem lay in not having definite information available at the beginning of a project relating to precisely what kinds of data were desired in the reports. Another deterrent has been the time and cost involved in attempting to get evidence of impact. Only recently have valid instruments, in which project directors can have confidence, begun to be developed. To the degree that either the lack of any valid impact measurement techniques or the possibility of negative results has hampered impact research in educational projects, there has been a loss of vital data to educational program management. Hopefully, the questions raised and the problems faced in compiling this report will lead to the development of better control of contract administration procedures, so that in the future impact can be more easily determined.

How Impact Works

There is an obvious impact that takes relatively little research to determine. Money is spent on projects directed to various forms of research. Programs are created, resources are released into the economy of various cities or States and consumed in the purchase of professional

time, services, or materials. Workshops are conducted, offices are established, RCUs are created in each State, Statewide consortiums are organized, hundreds of thousands of pages of curriculum materials, letters, inquiries, thank-you notes and job offers are generated, consuming reams of paper. All of these can be considered as representative of the impact of funds. This kind of activity is primarily economic, a way to fuel the economy of the Nation. The reporting of such economic activities is obvious in its intent in saying "look what has been done with the money", but such reporting gives little information upon which to base a decision for the next appropriation, unless one establishes the criteria of impact as the greatest number of pages typed, the most curriculum guides distributed, the most speeches presented, or the most students enrolled.

The tacit assumption seems to have been that the act of distributing money which is used to employ people to generate information will impact some educational system, will provide a service, will, through its consumption, affect some aspect of the economic, social or political system. Of course it will! But simplistic representations of impact should be strenuously avoided. Perhaps the term "impact" should not even be allowed to refer to this kind of activity. Output would perhaps be a more accurate term.

To report the impact of any intended activity requires more than a report on the activity or even the results of the activity. Before an activity is engaged in, the existing conditions intended to be changed by that activity must be determined. Somehow, the amount of resources required to effect the kind of change intended must be established, the duration of the activity must be approximated, and the general outcome of the impact projected. If the task attempted is too complex or expansive for the limited resources available, then purposeful directions must be determined and implemented into policy statements before any activity is engaged in. And even though the establishment of clear criterion measures before the funding of Nationwide educational efforts may be politically hazardous, they must be made before the efforts reflected in those criteria can be measured.

The best single example of stated purposeful activity, full speed ahead, torpedos be damned, has been the recent efforts of the USOE in career education. Even though criterion measures for the determination, as far as possible, of impact were not established, the impact of career education in the National Education system seems obviously significant compared against any measure used. The impact of career education may be an example of the effect that can be achieved by introducing an idea into a system when the time is just right for it. But even if that is the case, a great deal of information has still been lost because of the lack of deliberate intentions in finding out just what the condition of career education was before the National commitment to invest all funds available in its development. In a few areas, where needs assessments methods were developed and have begun to be used in the planning process, determination of changes should be possible in the near future. Those projects could serve as a model for future planning.

Social system research has proven to be very difficult. The number of variables that affects most problems is staggering. Establishing

criterion measures, and then developing valid and reliable methods of determining whether a change has occurred and the direction of that change often confound the most talented. But the fact is, impact information must be gathered, for without it no one can be sure the funds expended have had any effect at all. Impact is continually being assumed, conclusions as to the goodness or badness and the extent of the impact are made based only on descriptive information. The silence of the researcher does not stop impact determination.

The major conclusion of the impact study reported herein is that few people have engaged themselves in impact research. Projects have been reporting impact by reporting the resulting "output" from the project in terms of students contacted, curricula generated, etc., and not by any deliberate purposeful intent to report the actual changes caused in people. A typical example is a report of the development of the information storage and retrieval system.

> This system consists of access to the entire collection of ERIC documents and 2,000 local hard copy materials. The unit has a Kalver microfiche reproducer for duplicating ERIC and NTIS microfiche to vocational educators by request. (Portion of an impact report from the California State Department of Education.)

Most efforts to measure impact after the fact result in the inability to measure any of the changes that have occurred, as typified by the following statement:

> Little hard data were available from which to adequately assess the real impact of R and D in meeting the needs of the State. One would have to concede that the expenditure of over $5 million on research and development projects in the past seven years has had some over-all benefit on the State in meeting educational needs. However, this concession does little to help quantify the impact beyond the actual dollars spent. Nor do dollar expenditures themselves allow an accurate comparison with benefits that could have been derived from R and D had the funds been devoted to other projects or research activities.
>
> (Tadlock Associates, P. 61)

In the search that has been undertaken the suspicion has arisen that no one has taken time to determine what the educational system was like before 1963 and to quantify this information. Perhaps the statistical records that have been accumulated within the USOE could be used to establish some kind of baseline data upon which to base a comparison in an effort to measure impact.

Project Baseline has been trying to gather impact data from the RCU directors almost since its inception, even to the point of annoyance. Project directors in a few areas have begun reporting the development of methods to determine the state of the system prior to the beginning of a project, and of reliable evaluation techniques to assess changes. They require a fairly high degree of commitment and work on the part of system

personnel, but they are essential to provide any reasonable amount of accountability. As these methods become more widely known and used, the availability of background information from year to year should give impact data more validity.

Some of the reasons for the inability to obtain statistical impact data have been due to the high mobility of those who staff the RCUs. Many times the RCU has been a way-station in the development of someone's professional career. A historical perspective, so necessary in interpreting an impact, has therefore been lacking. Many times impact data have been unavailable because the persons asked to provide it had no clear idea of how the system was before the project began. They simply had not been around that long. In other cases, once a project was funded and the machinery had been set into motion to expend the money, the attention of those originally responsible for impact was directed to other projects. The project director's worth has often been more easily evaluated by the number of projects he got funded rather than by the impact of any particular project already begun.

In any case, if any kind of feel for the impact of Part C, D, and I funds was to be gained, it was necessary to accept the descriptive and financial information and the meager statistical data available. To this information the classification scheme developed in Chapter II was applied. This was done in an attempt to describe at least the intended impact, in addition to showing the funding pattern related to that intent.

Appropriate Use of Funds

If a taxonomy for impact could be developed and if it were to be used to establish areas of priority of impact, perhaps it would be easier to use funds allocated for the implementation of various purposes of the law appropriately. Since the funds available in Vocational Education are limited, and even the amounts authorized by Congress to support Vocational Education have never been fully allocated, it should not be surprising that vocational educators would be particularly jealous as to how the funds available are used. Accurately reporting the impact of past projects could be of great importance in the policy decisions that are to be made each year, both at the State and at the Federal levels. As is clearly obvious from the practice of block granting at the Federal level, just to impact the population is not the major purpose of a Federal grant. The law intends to impact a certain segment of the population, a segment that has gone wanting because of a lack of local or State support.

It therefore seems appropriate that impact research should become involved in the comparison of the stated legislative intent of the VEA and how the money was used. Many vocational educators, particularly those familiar with the reasons for the initial development of categorical Federal funding for Vocational Education, are well aware of the real danger to the continued development of Vocational Education when appropriations under the VEA can be used to support a significant redirection of the entire comprehensive education system as career education has successfully begun to do.

There is no doubt that the funds appropriated under Parts C, D, and I

are properly accounted for in the legal fiscal sense in developing career education. But what has the impact been on Vocational Education from not spending that same money on research, exemplary program development, and curriculum development in Vocational Education? All of the Commissioner's Discretionary and a good deal of the State's portion has been spent for the National launching of career education programs.

To ask about the use of Part C, D, and I funds for career education should not be interpreted to mean that the development of career education is not worthwhile or that Vocational Education may not be the segment of education that may ultimately benefit the most from career education. But Dr. Marland established a priority of intended impact when he decided to spend vocational monies for career education, rather than a more strict interpretation of the legislative purpose set forth in the 1968 Amendments. This interpretation has, in fact, redirected money that could have been used to fund program categories that, while specifically implied in the law, received little or no funds. Some examples are local policy identification of problems that affect the continued development of Vocational Education (Q_{1111}, Part C) or work experience for young people who are out of school and need work (P_{1133}, Part D) rather than career exploration for young people who are still in school (P_{1142}, Part D). Maybe funds could have been used to train more Vocational Education personnel to develop vocational curriculum materials for the independent school districts rather than so extensively funding universities for that purpose (Part I).

While the amount of money expended under Part D, or for that matter Parts C and I as well, has not been all that much, it seems that the way the money has been spent, when many of the controls as to how it was to be spent were removed, has been significant. Since the intended impact of the money consumed under Part I has been directed primarily at improved career awareness and career guidance, it seems logical to assume that if more money were unencumbered from regulations as to how it must be allocated, that additional money would be used to fund those same activities. There has always been a debate between the vocational counselor and the vocational educator as to what the term Vocational Education meant, and the resulting education programs that were to be developed from such understandings. Since an idea gains most of its meaning from how that idea has been used, it becomes reasonably obvious that the term "Vocational Education" means to many an orientation toward all life's occupations and not just those that require less than a college education for successful employment. One question must be asked, a question the impact study points out. What direction did the U.S. Congress intend the USOE to take in its funding program? That is, does one literally interpret the legislation and only implement programs that fit within that literal interpretation, or has the legislation been written to provide only very broad general guidelines?

Thus, how should an exemplary program in Vocational Education designed for young people be implemented? Should it impact the entire educational process establishing counseling services that are aimed to acquaint every person about all job possibilities including professional, semiprofessional, and nonprofessional occupations? Or should it be more narrowly targeted to impact those programs that can more directly help young people obtain skills that will solve more immediate problems such as alleviating the

"long and bitter months of job hunting or marginal work after leaving school."

Without the controls placed on the educational system that impact studies and reports can give, it will not be the intent of the legislators that is carried out in the implementation of the statutes, but the private intentions of the stronger personalities in the funding agencies.

Suggestions

1. For the purposes of writing a report such as this one, a one- or two-page abstract of each program, listing in brief, concise form the objectives of the project and a measure of how well those objectives were reached, the numbers of schools, staff, and students involved, and the proportion those were of the total students in the district or State would have been most useful. A few States had some of this information available in a clearly defined format requested by the RCU and maintained on files in the RCU offices. Nebraska and Oregon were some very good examples.

2. A brief listing, either in the appendix or the abstract, of previous research specifically used as a resource would also have been helpful.

3. Impact--actual measurement of change--should be a required part of all projects, with teeth built in and funding provided. That is, if the impossibility of measuring impact is not agreed upon at the outset of the project, those who proposed the project should be held accountable for impact. They should be penalized when they do not take the time to measure it, or when they were wrong in saying the impact could be measured.

4. In almost every State where educational personnel were interviewed, one of the major statements was that, while the research and development projects were showing themselves to be beneficial, they could expand and proceed at a much more rapid rate if more funds could be made available.

5. A clear priority of intended project impact should be established each year for funds made available under such general areas of appropriation as research and development. Perhaps the emphasis of priorities could be established in the USOE in close consultation with the State Directors of Vocational Education, the National Advisory Council on Vocational Education, and the American Vocational Association. These priorities should be made available to all RCUs and other agencies and interested personnel through the Government Printing Office. Perhaps the announcement could even include general information with regard to writing proposals, the number to be funded, contract award procedures, etc.

APPENDIX A

Tabulation of Research

and Development Funds

by State

APPENDIX A - Distribution of Research and Development Funds

Vocational Education Amendment of 1968

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
ALABAMA	1967[1]	4(c)	1	
	1970	D Commissioner[2]	1	$ 357,502 (70-73)
		D State	3	123,138
	1971	D State	5	145,751
		C State	7	232,092
	1972	D State	6	150,207
		C Commissioner	1	197,115
		C State	2	29,368
		TOTALS	26	1,235,173
ALASKA	1970	D State	10	101,868
	1971	C State	4	22,662
		D State	5	104,123
		D Commissioner	1	324,000 (71-74)
	1972	C State	1	9,296
		C Commissioner	1	12,039
		D State	2	104,473
		TOTALS	24	678,461
ARIZONA	1965	4(c)	1	
	1970	D State	4	77,738

1. The few projects traced from prior to 1970 were funded under Part 4(c) of the Vocational Education Act of 1963. All other projects came under Amendments of 1968.

2. Funds appropriated under Parts C and D, VEA were divided, half administered by the States and half under the discretion of the U.S. Commissioner of Education.

Source: Abstracts of Exemplary Projects in Vocational Education, supported under Section 142 (c) of Part D of the Vocational Education Amendments of 1968, June, 1973, and Abstracts of Research and Development Projects in Career Education supported under Section 131 (a) of Part C of the Vocational Education Amendments of 1968, June, 1972.

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
ARIZONA - continued -	1971	D Commissioner	1	$ 325,777
		D State	4	98,980
		C State	5	10,356
	1972	D State	3	89,040
		C State	2	45,939
		C Commissioner	1	85,421
		TOTALS	21	733,251
ARKANSAS	1970	D Commissioner	1	387,503 (70-73)
		D State	1	112,276
	1971	C State	11	154,768
		D State	8	123,303
	1972	C Commissioner	1	106,580
		C State	5	77,167
		D State	10	134,472
		TOTALS	37	1,096,069
CALIFORNIA	1964	4(c)	1	
	1965	4(c)	2	
	1965-69	4(c)	1	
	1966	4(c)	5	22,000 (1 Project)
	1967	4(c)	3	
		4(c)	1	
	1968	4(c)	1	
	1970	D Commissioner	1	575,944 (70-73)
		D State	16	185,324
	1971	C State	32	1,264,473
		D State	20	349,893
	1972	C State	14	270,980
		C Commissioner	1	705,586
		D State	13	365,982
		D Commissioner	2	981,570 (72-75)
		I	3	2,375,300
	1973	I	4	553,707
		TOTALS	120	7,650,759

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
COLORADO	1970	D State	6	$ 86,256
	1971	C State	19	78,594
		D Commissioner	1	332,056 (71-73)
		D State	9	102,011
	1972	C Commissioner	1	98,979
		C State	21	32,124
		D State	10	96,706
		I	2	109,679
	1973	I	1	239,987
		TOTALS	70	1,176,392
CONNECTICUT	1970	D Commissioner	1	340,648 (70-73)
		D State	3	85,982
	1971	D State	4	80,581
		C State	20	129,514
	1972	D State	4	135,652
		C State	3	44,332
		C Commissioner	1	99,227
		TOTALS	36	915,936
DELAWARE	1970	D State	4	103,136
		D Commissioner	1	307,767 (70-73)
	1971	D State	6	106,921
		C State	5	37,972
	1972	C State	1	8,956
		C Commissioner	1	20,143
		D State	7	106,925
		TOTALS	25	691,820
DISTRICT OF COLUMBIA	1970	D State	1	321,137 (70-72)
		D Commissioner	1	309,749 (70-73)
	1971	C State	1	34,594
	1972	C State	1	23,700
		C Commissioner	1	23,700

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
DISTRICT OF COLUMBIA - continued -	1972-73	I	2	$ 258,911
		TOTALS	7	971,791
FLORIDA	1967	4(c)	2	
	1970	D State	1	439,978 (70-72)
		D Commissioner	1	116,318 (70-71)
	1971	D Commissioner	1	544,433 (71-74)
		C State	22	516,009
		D State	1	38,375
	1972	C State	7	274,308
		C Commissioner	1	280,556
		TOTALS	36	2,209,977
GEORGIA	1970	D State	1	393,326 (70-72)
		D Commissioner	1	372,869 (70-73)
	1971	C State	14	255,831
	1972	C State	11	243,333
		C Commissioner	3	255,831
	1971-72	I	2	264,740
		TOTALS	32	1,785,930
HAWAII	1970	D State	6	91,000
		D Commissioner	1	216,477 (70-72)
	1971	C State	2	9,870
		D State	7	101,637
	1972	C Commissioner	1	37,058
		C State	2	20,832
		D State	7	120,435
		TOTALS	26	597,309
IDAHO	1970	D State	5	104,804
	1971	D State	6	110,603
		D Commissioner	1	362,500 (71-74)
		C State	1	8,666

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
IDAHO - continued -	1972	D State	4	$ 99,935
		C State	2	14,091
		C Commissioner	1	40,804
		TOTALS	20	741,403
ILLINOIS	1965	4(c)	1	
	1966-68	4(c)	1	
	1966	4(c)	1	
	1967	4(c)	1	
	1970	D State	7	161,487
	1971	C State	22	730,814
		D Commissioner	1	455,983 (71-74)
		D State	6	242,214
	1972	C Commissioner	3	382,790
		C State	9	730,814
		D State	13	212,743
		D Commissioner	1	361,500 (72-75)
		I	1	181,000
	1973	I	2	36,109
		TOTALS	69	3,495,454
INDIANA	1965-67	4(c)	1	
	1970	D State	4	115,589
	1971	C State	8	431,978
		D State	4	168,628
		D Commissioner	1	377,000 (71-74)
	1972	C State	17	223,021
		D State	5	168,530
		C Commissioner	2	223,021
		TOTALS	42	1,707,767
IOWA	1970	D State	2	107,479
		D Commissioner	1	343,292 (70-73)
	1971	D State	4	123,585
		C State	12	234,003

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
IOWA - continued -	1972	D State	4	$ 123,954
		C State	6	116,014
		C Commissioner	1	128,938
		TOTALS	30	1,177,265
KANSAS	1967	4(c)	1	
	1970	D Commissioner	1	331,030 (70-73)
		D State	5	114,143
	1971	C State	1	209,208
		D State	5	139,500
	1972	C Commissioner	1	109,014
		D State	7	131,734
		C State	8	109,014
		TOTALS	29	1,143,643
KENTUCKY	1967	4(c)	1	
	1970	D State	2	120,748
	1971	D State	3	145,820
		C State	10	265,158
	1972	D State	4	145,014
		C State	15	165,717
		C Commissioner	1	178,740
		I	2	283,012
	1973	I	1	10,000
		TOTALS	39	1,314,209
LOUISIANA	1964-67	4(c)	1	
	1970	D State	1	124,484
		D Commissioner	1	360,641
	1971	D State	3	152,755
		C State	12	382,356
	1972	D State	3	153,959
		C State	5	152,482
		C Commissioner	2	208,042
		TOTALS	28	1,534,719

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
MAINE	1970	D State	6	$ 106,005
		D Commissioner	1	314,872 (70-73)
	1971	D State	15	113,254
		C State	7	92,232
	1972	D State	9	88,689
		C State	5	39,585
		C Commissioner	1	49,626
		TOTALS	44	804,263
MARYLAND	1970	D State	8	122,094
		D Commissioner	1	355,685 (70-73)
	1971	D State	10	124,700
		C State	8	250,533
	1972	D State	8	149,750
		C State	6	108,261
		C Commissioner	1	151,322
		I	1	35,463
		TOTALS	43	1,297,808
MASSACHUSETTS	1965	4(c)	1	
	1970	D State	5	128,299
		D Commissioner	1	375,182 (70-73)
	1971	D State	5	153,155
		C State	4	320,269
	1972	D State	5	123,688
		C State	4	119,786
		C Commissioner	1	194,120
		D Commissioner	1	421,408 (72-74)
		I	3	1,821,266
	1973	I	3	589,153
		TOTALS	33	4,246,326
MICHIGAN	1957-68	HEW, 4(c)	1	
	1965-68	4(c)	1	
	1966-67	4(c)	1	

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
MICHIGAN - continued -	1970	D State	7	$ 154,773
		D Commissioner	1	435,658 (70-73)
	1971	D State	6	171,121
		C State	6	589,000
	1972	D State	6	141,588
		C State	1	359,043
		C Commissioner	1	359,043
		D Commissioner	1	439,825
		I	1	163,241
		TOTALS	33	2,813,292
MINNESOTA	1964-67	4(c)	1	
	1966-68	4(c)	3	
	1967	4(c)	1	
	1970	D State	1	122,537
		D Commissioner	1	122,537
	1971	D State	21	165,714
		C State	8	212,844
		D Commissioner	1	463,581 (71-74)
	1972	D State	7	132,836
		C State	4	78,484
		C Commissioner	1	167,391
	1973	I	2	362,985
		TOTALS	51	1,828,909
MISSISSIPPI	1970	D State	1	324,874 (70-72)
		D Commissioner	1	340,317 (70-73)
	1971	C State	11	240,631
	1972	C State	10	101,091
		C Commissioner	4	136,091
		I	1	180,000
	1973	I	1	10,000
		TOTALS	29	1,333,004

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
MISSOURI	1964-67	4(c)	1	
	1966	4(c)	1	
	1970	D State	3	$ 126,619
	1971	D Commissioner	1	379,857 (71-74)
		D State	3	158,761
		C State	69	350,195
	1972	D State	3	159,153
		C Commissioner	2	207,297
		C State	15	74,297
		I	1	250,000
		TOTALS	99	1,706,179
MONTANA	1966	4(c)	1	
	1970	D State	3	104,670
		D Commissioner	1	311,567 (70-73)
	1971	D State	10	110,309
		C State	3	64,460
	1972	D State	3	110,100
		C State	1	35,540
		C Commissioner	1	36,439
		TOTALS	23	773,085
NEBRASKA	1966-67	4(c)	1	
	1965-69	4(c)	1	
	1970	D State	4	103,940
	1971	D State	4	102,907
		C State	9	117,743
		D Commissioner	1	328,500 (71-74)
	1972	D State	4	78,841
		C State	4	31,252
		C Commissioner	1	65,299
		TOTALS	29	828,482

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
NEVADA	1970	D State	3	$ 43,730
		D Commissioner	1	305,783 (70-73)
	1971	D State	7	107,660
		C State	1	46,626
	1972	C State		
		D State	8	94,253
		C Commissioner	1	15,850
		I	1	403,300
		TOTALS	22	1,017,202
NEW HAMPSHIRE	1970	D State	10	98,958
		D Commissioner	1	309,914 (70-73)
	1971	D State	8	94,013
		C State	4	53,916
	1972	D State	9	98,561
		C State	1	9,737
		D Commissioner	1	246,802 (72-75)
		C Commissioner	1	31,243
		TOTALS	35	943,144
NEW JERSEY	1970	D State	7	139,228
		D Commissioner	1	397,159 (70-73)
	1971	D State	10	186,595
		C State	4	132,269
	1972	D State	6	125,242
		C State	17	132,269
		D Commissioner	1	476,888 (72-75)
		C Commissioner	2	254,114
		I	1	150,000
	1973	I	3	501,700
		TOTALS	52	2,495,464
NEW MEXICO	1970	D State	11	57,005
	1971	D State	3	84,594
		C State	7	52,391
		D Commissioner	1	317,350

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
NEW MEXICO - continued -	1972	D State	34	$ 108,442
		C State	1	57,852
		C Commissioner	1	57,852
		TOTALS	58	735,486
NEW YORK	1965-68	4(c)	1	
	1970	D State	4	233,597
	1971	D State	6	363,661
		C State	28	644,617
		D Commissioner	1	544,055 (71-74)
	1972	D State	7	321,470
		C State	26	285,749
		C Commissioner	1	591,380
		D Commissioner	1	903,790 (72-75)
		I	3	501,700
		TOTALS	78	4,390,019
NORTH CAROLINA	1970	D State	14	128,014
		D Commissioner	1	382,949
	1971	D State	13	157,036
		C State	21	518,615
	1972	D State	8	133,378
		C State	8	205,808
		C Commissioner	1	294,703
		TOTALS	66	1,820,503
NORTH DAKOTA	1970	D State	7	104,270
		D Commissioner	1	310,575 (70-73)
	1971	D State	7	104,539
		C State	9	63,079
	1972	D State	9	93,826
		C State	1	26,629
		C Commissioner	1	35,229
		TOTALS	35	738,147

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
OHIO	1965-71	4(c)	1	
	1970	D State	5	$ 159,276
		D Commissioner	4	461,436 (70-73)
	1971	D State	13	238,344
		C State	22	795,504
	1972	D State	4	162,817
		C State	14	314,127
		C Commissioner	4	459,697
	1973	C State	9	714,187
	1972	I	1	150,000
	1973	I	1	250,000
		TOTALS	78	3,705,388
OKLAHOMA	1970	D State	14	115,220
		D Commissioner	1	337,674 (70-73)
	1971	D State	14	101,682
		C State	20	168,765
	1972	D State	7	101,682
		C State	1	132,525
		C Commissioner	1	132,525
		I	1	197,880
	1973	I	2	35,000
		TOTALS	61	1,322,953
OREGON	1970	D State	10	85,472
		D Commissioner	1	330,900 (70-73)
	1971	D State	10	94,249
		C State	11	127,712
	1972	D State	8	70,701
		C State	15	48,112
		C Commissioner	1	94,491
		I	1	150,000
	1973	I	1	241,830
		TOTALS	58	1,243,567

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
PENNSYLVANIA	1970	D State	8	$ 168,049
	1971	D State	9	226,600
		D Commissioner	1	468,451 (71-74)
		C State	56	923,316
	1972	D State	9	248,457
		C State	10	298,766
		C Commissioner	1	498,124
		I	4	340,381
		TOTALS	98	3,172,144
RHODE ISLAND	1970	D State	7	105,137
	1971	D State	10	111,252
		C State	2	70,577
		D Commissioner	1	312,705
	1972	D State	13	111,254
		C State	2	34,780
		C Commissioner	1	36,583
		TOTALS	36	782,288
SOUTH CAROLINA	1970	D State	1	400,892 (70-72)
		D Commissioner	1	346,226 (70-73)
	1971	C State	14	200,873
	1972	C State	2	46,638
		C Commissioner	1	161,613
		TOTALS	19	1,156,242
SOUTH DAKOTA	1970	D State	5	104,007
		D Commissioner	1	311,071
	1971	D State	3	107,135
		C State	4	71,410
	1972	C State	1	35,594
		C Commissioner	1	35,594
		D State	3	108,929
		TOTALS	18	773,740

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
TENNESSEE	1966	4(c)	1	
	1970	D State	1	$ 378,789 (70-72)
		D Commissioner	1	391,353
	1971	C State	13	6,018
		D State	1	52,265 (71-72)
	1972	C State	38	67,373
		C Commissioner	1	213,211
		TOTALS	56	1,109,009
TEXAS	1970	D State	4	57,675
		D Commissioner	1	472,011 (70-73)
	1971	D State	4	175,174
		C State	47	881,912
	1972	D State	6	232,323
		C State	21	558,178
		C Commissioner	1	578,266 (72-73)
		I	5	2,220,900
	1973	I	4	610,636
		TOTALS	93	5,787,075
UTAH	1967-69	4(c)	1	
	1970	D State	13	116,514
		D Commissioner	1	317,350
	1971	D State	11	108,541
		C State	7	27,306
	1971-72	D State	1	58,300
	1972	D State	4	115,582
		C State	4	19,896
		C Commissioner	1	57,627
		I	1	50,000
		TOTALS	44	871,116

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
VERMONT	1970	D State	14	$ 101,903
	1971	D State	16	104,130
		C State	5	35,244
		D Commissioner	1	303,720 (71-74)
	1972	D State	13	107,130
		C State	2	13,050
		C Commissioner	1	20,781
		TOTALS	52	685,958
VIRGINIA	1966	4(c)	1	
	1970	D State	5	116,754
		C Commissioner	1	371,217 (70-73)
	1971	D State	8	130,760
		C State	9	479,374
	1972	D State	9	169,965
		C State	5	38,807
		C Commissioner	2	241,777
		TOTALS	40	1,548,654
WASHINGTON	1967-68	4(c)	1	
	1970	D State	10	126,643
		D Commissioner	1	351,223
	1971	D State	19	133,179
		C State	43	277,093
	1972	D State	13	141,738
		C State	23	81,108
		C Commissioner	1	145,680
		TOTALS	111	1,256,664
WEST VIRGINIA	1970	D State	3	
	1971	D State	10	
		C State	10	115,401
		D Commissioner	1	330,238 (71-73)
	1972	D State	10	
		C State	4	37,499
		C Commissioner	1	100,304
		I	1	110,128

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
WEST VIRGINIA - continued -	1973	I	1	$ 180,000
		TOTALS	41	873,570
WISCONSIN	1970	D State	27	95,579
	1971	D State	18	126,294
		C State	42	226,983
		D Commissioner	1	364,773 (71-74)
	1972	D State	23	155,589
		C State	49	289,047
		C Commissioner	1	186,774
		I	1	10,000
		TOTALS	162	1,455,039
WYOMING	1970	D State	3	102,155
		D Commissioner	1	311,823 (70-73)
	1971	D State	6	104,860
		C State	4	9,478
	1972	D State	14	104,761
		C State	2	11,225
		C Commissioner	1	16,440
		TOTALS	31	660,742
AMERICAN SAMOA	1972	D	1	7,089
		C	—	1,940
		TOTALS	1	9,029
GUAM	1972	C Commissioner	1	7,245
		D Commissioner	1	20,783
		TOTALS	2	28,028
PUERTO RICO	1970	D Commissioner	1	513,627 (70-71)
	1972	C Commissioner	1	162,778
		D Commissioner	1	99,461
		TOTALS	3	775,866

STATE	FISCAL YEAR	VEA PART	NUMBER OF PROJECTS	TOTAL FEDERAL FUNDS
TRUST TERRITORY OF THE PACIFIC ISLANDS	1971	D Commissioner	1	$ 5,014
	1972	D Commissioner	1	4,930
		TOTALS	2	9,944
VIRGIN ISLANDS	1972	D Commissioner	1	10,547
		C Commissioner	1	3,055
		TOTALS	2	13,602

APPENDIX B

Part C Expenditures Profile

1. Summary of Expenditures by Category and Expenditures by Category for Each Year, Fiscal Years 1971-73

2. State-Administered Research and Development Funds, Part C, VEA, Categorized by State for Fiscal Years 1971-1973

SUMMARY

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1111} $ 135,639 1.0%	Q_{1112} $ 886,011 6.5%	Q_{1113} $ 132,572 1%	Q_{1114} $ - 0 - 	Q_{1115} $ 105,859 .8%	$ 1,260,081 9.2%
Administrative	Q_{1121} 467,229 3.4%	Q_{1122} 751,687 5.5%	Q_{1123} 930,493 6.8%	Q_{1124} 563,481 4.1%	Q_{1125} 592,912 4.3%	3,305,802 24.1%
Instructional	Q_{1131} 25,599 .2%	Q_{1132} 1,537,477 11.2%	Q_{1133} 3,289,769 24.0%	Q_{1134} 2,772,997 20.3%	Q_{1135} 1,499,611 11.0%	9,125,453 66.7%
TOTALS	628,467 4.6%	3,175,175 23.2%	4,352,834 31.8%	3,336,478 24.4%	2,198,382 16.1%	13,691,336 100%

Figure B-1. Summary of Analysis of 1971 Expenditures of State-Administered Part C Funds. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

LOCAL

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1111} $ 26,052 .2%	Q_{1112} $ 282,908 2.0%	Q_{1113} $ 31,344 .2%	Q_{1114} $ - 0 -	Q_{1115} $ 54,613 .4%	$ 394,917 2.9%
Administrative	Q_{1121} 269,633 2.0%	Q_{1122} 493,348 3.6%	Q_{1123} 321,463 2.3%	Q_{1124} 365,195 2.7%	Q_{1125} 314,798 2.3%	1,764,437 12.9%
Instructional	Q_{1131} 14,816 .1%	Q_{1132} 1,003,921 7.3%	Q_{1133} 1,504,903 11.0%	Q_{1134} 1,741,990 12.7%	Q_{1135} 690,789 5.0%	4,956,419 36.2%
TOTALS	310,501 2.3%	1,780,177 13.0%	1,857,710 13.6%	2,107,185 15.4%	1,060,200 7.7%	7,115,773 52.0%

Figure B-2. Analysis of State-Administered Part C Funds Obligated for Projects at the Local Level during 1971. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

STATE

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1211} $109,587 .8%	Q_{1212} $ 597,003 4.4%	Q_{1213} $ 101,228 .7%	Q_{1214} $ - 0 - . 	Q_{1215} $ 51,246 .4%	$ 859,064 6.3%
Administrative	Q_{1221} 197,596 1.4%	Q_{1222} 258,339 1.9%	Q_{1223} 609,030 4.4%	Q_{1224} 196,286 1.4%	Q_{1225} 278,114 2.0%	1,539,365 11.2%
Instructional	Q_{1231} 10,783 .1%	Q_{1232} 533,556 3.9%	Q_{1233} 1,759,866 12.9%	Q_{1234} 1,031,007 7.5%	Q_{1235} 808,822 5.9%	4,144,034 30.3%
TOTALS	317,966 2.3%	1,388,898 10.2%	2,470,124 18.0%	1,227,293 9.0%	1,138,182 8.3%	6,542,463 47.8%

Figure B-3. Analysis of State-Administered Part C Funds Obligated for Projects at the State Level during 1971. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

NATIONAL

	Identification	Calrification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1311} - 0 -	Q_{1312} $6,100 .04%	Q_{1313} - 0 -	Q_{1314} - 0 -	Q_{1315} - 0 -	$ 6,100 .04%
Administration	Q_{1321} - 0 -	Q_{1322} - 0 -	Q_{1323} - 0 -	Q_{1324} $2,000 .01%	Q_{1325} - 0 -	2,000 .01%
Instructional	Q_{1331} - 0 -	Q_{1332} - 0 -	Q_{1333} $25,000 .2%	Q_{1334} - 0 -	Q_{1335} - 0 -	25,000 .2%
TOTALS	- 0 -	6,100 .04%	25,000 .2%	2,000 .01%	- 0 -	33,100 .2%

Figure B-4. Analysis of State-Administered Part C Funds Obligated for Projects at the Multi-State or National Level during 1971. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

SUMMARY

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1111} $ 53,101 .9%	Q_{1112} $ 564,346 9.5%	Q_{1113} $ 37,672 .6%	Q_{1114} $ 43,842 .7%	Q_{1115} $378,782 6.4%	$ 1,077,743 18.2%
Administrative	Q_{1121} 99,680 1.7%	Q_{1122} 387,661 6.6%	Q_{1123} 159,250 2.7%	Q_{1124} 443,401 7.5%	Q_{1125} 274,947 4.7%	1,364,939 23.1%
Instructional	Q_{1131} 81,774 1.4%	Q_{1132} 605,817 10.2%	Q_{1133} 609,229 10.3%	Q_{1134} 1,925,733 32.6%	Q_{1135} 247,047 4.2%	3,469,600 58.7%
TOTALS	234,555 4.0%	1,557,924 26.4%	806,151 13.6%	2,412,976 40.8%	900,776 15.2%	5,912,282 100%

Figure B-5. Summary of Analysis of 1972 Expenditures of State-Administered Part C Funds. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

LOCAL

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1111} $26,056 .5%	Q_{1112} $ 77,923 1.3%	Q_{1113} $ - 0 - 	Q_{1114} $ 19,975 .3%	Q_{1115} $122,052 2.1%	$ 246,006 4.2%
Administrative	Q_{1121} 13,577 .2%	Q_{1122} 222,087 3.8%	Q_{1123} 70,735 1.2%	Q_{1124} 243,203 4.1%	Q_{1125} 81,959 1.4%	631,561 10.7%
Instructional	Q_{1131} - 0 -	Q_{1132} 414,784 7.0%	Q_{1133} 288,691 4.9%	Q_{1134} 1,144,741 19.4%	Q_{1135} 139,829 2.4%	1,988,045 33.6%
TOTALS	39,633 .7%	714,794 12.1%	359,426 6.1%	1,407,919 23.8%	343,840 5.8%	2,865,612 48.5%

Figure B-6. Analysis of State-Administered Part C Funds Obligated for Projects at the Local Level during 1972. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

STATE

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1211} $ 27,045 .5%	Q_{1212} $486,423 8.2%	Q_{1213} $ 37,672 .6%	Q_{1214} $ 23,867 .4%	Q_{1215} $256,730 4.3%	$ 831,737 14.1%
Administrative	Q_{1221} 86,103 1.5%	Q_{1222} 165,574 2.8%	Q_{1223} 88,515 1.5%	Q_{1224} 200,198 3.4%	Q_{1225} 192,988 3.4%	733,378 12.4%
Instructional	Q_{1231} 81,774 1.4%	Q_{1232} 191,033 3.2%	Q_{1233} 295,538 5.0%	Q_{1234} 762,559 12.9%	Q_{1235} 107,218 1.8%	1,438,122 24.3%
TOTALS	194,922 3.4%	843,030 14.3%	421,725 7.1%	986,624 16.7%	556,936 9.4%	3,003.237 50.8%

Figure B-7. Analysis of State-Administered Part C Funds Obligated for Projects at the State Level during 1972. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

NATIONAL

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1311} $ - 0 -	Q_{1312} $ - 0 -	Q_{1313} $ - 0 -	Q_{1314} $ - 0 -	Q_{1315} $ - 0 -	$ - 0 -
Administrative	Q_{1321} - 0 -	Q_{1322} - 0 -	Q_{1323} - 0 -	Q_{1324} - 0 -	Q_{1325} - 0 -	- 0 -
Instructional	Q_{1331} - 0 -	Q_{1332} - 0 -	Q_{1333} 25,000 .4%	Q_{1334} 18,433 .3%	Q_{1335} - 0 -	43,433 .7%
TOTALS	- 0 -	- 0 -	25,000 .4%	18,433 .3%	- 0 -	43,433 .7%

Figure B-8. Analysis of State-Administered Part C Funds Obligated for Projects at the Multi-State or National Level during 1972. Percents shown are percentages of totals of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

SUMMARY

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1111} $ 3,352 .04%	Q_{1112} $ 947,859 10.8%	Q_{1113} $ 66,029 .8%	Q_{1114} $ - 0 - 	Q_{1115} $ 28,157 .3%	$1,045,397 11.9%
Administrative	Q_{1121} 74,217 .8%	Q_{1122} 1,162,268 13.2%	Q_{1123} 539,829 6.2%	Q_{1124} 544,465 6.2%	Q_{1125} 481,906 5.5%	2,802,685 31.9%
Instructional	Q_{1131} 25,284 .3%	Q_{1132} 227,550 2.6%	Q_{1133} 1,921,844 21.9%	Q_{1134} 1,912,115 21.9%	Q_{1135} 839,408 9.6%	4,926,201 56.1%
TOTALS	102,853 1.2%	2,337,677 26.6%	2,527,702 28.8%	2,456,580 28.0%	1,349,468 15.4%	8,774,283 100%

Figure B-9. Summary of Analysis of 1973 Expenditures of State Administered Part C Funds. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

LOCAL

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1111} $ - 0 -	Q_{1112} $ 294,034 3.4%	Q_{1113} $ 39,736 .5%	Q_{1114} $ - 0 -	Q_{1115} $ 11,000 .1%	$ 344,770 3.9%
Administrative	Q_{1121} 19,177 .2%	Q_{1122} 662,533 7.6%	Q_{1123} 324,519 3.7%	Q_{1124} 237,062 2.7%	Q_{1125} 103,039 1.2%	1,346,330 15.4%
Instructional	Q_{1131} 17,271 .2%	Q_{1132} 201,110 2.3%	Q_{1133} 1,674,872 19.1%	Q_{1134} 1,735,856 19.8%	Q_{1135} 381,386 4.3%	4,010,495 45.7%
TOTALS	36,448 .4%	1,157,677 13.2%	2,039,127 23.3%	1,972,918 22.5%	495,425 5.6%	5,701,595 65%

Figure B-10. Analysis of State-Administered Part C Funds Obligated for Projects at the Local Level during 1973. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

STATE

	Identification	Clarification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1211} $ 3,352 .04%	Q_{1212} 650,225 7.4%	Q_{1213} $ 26,293 .3%	Q_{1214} $ - 0 -	Q_{1215} $ - 0 -	$ 679,870 7.8%
Administrative	Q_{1221} $55,040 .6%	Q_{1222} 499,735 5.7%	Q_{1223} 215,310 2.5%	Q_{1224} 307,403 3.5%	Q_{1225} 378,867 4.3%	1,456,355 16.6%
Instructional	Q_{1231} 8,013 .1%	Q_{1232} 26,440 .3%	Q_{1233} 242,622 2.8%	Q_{1234} 173,759 2.0%	Q_{1235} 333,022 3.8%	783,856 8.9%
TOTALS	66,405 .8%	1,176,400 13.4%	484,225 5.5%	481,162 5.5%	711,889 8.1%	2,920,081 33.3%

Figure B-11. Analysis of State-Administered Part C Funds Obligated for Projects at the State Level during 1973. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

NATIONAL

	Identification	Calrification	Solution	Implementation	Evaluation	TOTALS
Policy	Q_{1311} - 0 -	Q_{1312} $3,600 .04%	Q_{1313} - 0 -	Q_{1314} - 0 -	Q_{1315} $ 17,157 .2%	$ 20,757 .2%
Administration	Q_{1321} - 0 -	Q_{1322} - 0 -	Q_{1323} - 0 -	Q_{1324} - 0 -	Q_{1325} - 0 -	- 0 -
Instructional	Q_{1331} - 0 -	Q_{1332} - 0 -	Q_{1333} $4,350 .05%	Q_{1334} $2,500 .03%	Q_{1335} $125,000 1.4%	131,850 1.5%
TOTALS	- 0 -	3,600 .04%	4,350 .05%	2,500 .03%	142,157 1.6%	152,607 1.7%

Figure B-12. Analysis of State-Administered Part C Funds Obligated for Projects at the Multi-State or National Level during 1973. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix B are steps in the analysis of data found in State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

Chart B-1. State-Administered Research and Development Funds, 1971 Part C, VEA, Categorized by State

State	Q 1111	Q 1112	Q 1113	Q 1115	Q 1121	Q 1122	Q 1123	Q 1124	Q 1125	Q 1131	Q 1132	Q 1133	Q 1134	Q 1135	Q 1211	Q 1212
Alabama															65,092	39,500
Alaska															12,910	6,752
Arizona																600
Arkansas						14,865						8,951	45,618			
California		20,000									226,959		105,000	307,619	18,000	107,249
Colorado			8,561			15,646		500	500				6,054			103
Connecticut											20,713	35,585	25,399	15,378		
Delaware											14,678					
D. of C.																
Florida						24,619						16,786			6,924	5,800
Georgia		21,436					20,000					194,951				25,970
Hawaii											9,870					
Idaho													8,666			
Illinois									58,333	8,595	22,529	53,414	25,319		2,500	
Indiana					45,874							343,706	34,391	8,007		
Iowa												49,603				
Kansas																
Kentucky													200,000			
Louisiana						10,000					45,000		120,594			42,726
Maine								18,450					60,998	2,880		
Maryland											36,000	151,418		54,094		
Massachusetts						89,000			68,000		162,769					
Michigan					169,000	70,000							19,711	5,200		
Minnesota				27,460					23,755							
Mississippi						5,889		9,890								
Missouri		3,797			8,008	3,152	90,760	21,470	5,700		4,844	74,635	35,217			29,550
Montana																13,000
Nebraska							24,245									30,776
Nevada																
New Hampshire			22,423				5,506									
New Jersey		53,416						79,942						6,000		
New Mexico							1,000				1,000	11,950	750	200		15,000
New York		150,000				14,310	3,052		1,540		81,718	100,278	128,050	5,004		149,985
North Carolina						53,032	36,300	50,580	32,085		1,530		3,375	11,579		
North Dakota						26,856	7,500			6,221		18,250				
Ohio						3,821						45,683	179,365	62,301		
Oklahoma						2,790	16,606	36,437			17,529	7,750	29,527	8,021		
Oregon														107,658		
Pennsylvania		13,622				95,404	1,000	61,018			86,772	70,506	360,526	56,910		
Rhode Island								4,243								66,334
South Carolina							10,850				188,555		1,468			
South Dakota														3,000		46,850
Tennessee											1,941	370	1,610	300		
Texas	26,052	20,637		23,351		41,648	51,559	10,608	95,860		43,156	208,216	120,100	12,679	4,161	14,479
Utah									27,625			30				
Vermont													1,083			2,333
Virginia												80,972	4,174			
Washington					4,400	4,636	32,970	50,700	1,000		37,329	13,629	96,029	11,000		
West Virginia					42,351		17,169					6,242	24,614	4,275		
Wisconsin			360	3,822		17,680	446	21,357			1,029	6,500	104,352	8,684		
Wyoming							2,500					5,478				
TOTAL	26,052	282,908	31,344	54,613	269,633	493,348	321,463	365,195	314,798	14,816	1,003,921	1,504,903	1,741,990	690,789	109,587	597,003

Chart B-1. Continued

	Q 1213	Q 1215	Q 1221	Q 1222	Q 1223	Q 1224	Q 1225	Q 1231	Q 1232	Q 1233	Q 1234	Q 1235	Q 1312	Q 1324	Q 1333	TOTAL
Alabama				45,600						55,900					25,000	231,092
Alaska				3,000												22,662
Arizona				7,783					2,500							10,883
Arkansas									11,055	32,915	41,363					154,767
California				1,350		28,131	51,140		201,762	39,800		157,467				1,264,473
Colorado	11,250			8,380						27,600						78,594
Connecticut				16,740					2,350	13,348						129,513
Delaware									16,294		7,000					37,972
Dist. of C.									34,594							34,594
Florida				5,720	14,744	24,510			27,294	86,204	119,045	184,364				516,010
Georgia				73,639						295,556						631,552
Hawaii																9,870
Idaho																8,[illegible]
Illinois			192,991	10,006	98,882		13,485	10,783		200,002	19,825	14,151				730,815
Indiana																431,978
Iowa	2,300				70,000	31,890	12,734		67,506							234,033
Kansas					209,208											209,208
Kentucky			4,605	7,900			21,559			88,771	8,300	21,554				352,689
Louisiana						89,600			44,859		23,687	6,000				382,466
Maine					9,904											92,232
Maryland									19,021							260,533
Massachusetts																319,769
Michigan						10,000				285,000	55,000					589,000
Minnesota											20,362	116,056				212,544
Mississippi	4,545			14,520	30,546	5,500				24,048	145,693					240,631
Missouri		700			34,500		21,055			42,960	3,397					350,195
Montana	34,910															64,460
Nebraska	19,218				28,000	3,280				9,500		14,400	6,100			117,743
Nevada																30,776
New Hampshire				19,989								5,998				53,910
New Jersey																139,358
New Mexico												22,491				52,391
New York				5,924			1,500			2,854						644,615
N. Carolina				8,988	3,915				12,075	236,434	60,472	8,250				518,615
N. Dakota										4,256						63,083
Ohio				14,992			62,716			59,861	328,338	38,428				795,505
Oklahoma				10,204		3,375			690	20,456	28,708					182,093
Oregon											20,054					127,712
Pennsylvania		25,102		685			34,400				126,371	1,000				933,316
Rhode Island																70,527
S. Carolina																200,873
S. Dakota				1,860	19,700											71,410
Tennessee					500				500	797						6,018
Texas					51,996		23,140		93,056	24,424		39,975				905,077
Utah				1,059								67				28,781
Vermont										14,775		17,053				35,244
Virginia	26,505	25,102			37,135					168,155	14,434	150,999				507,476
Washington														2,000		253,695
W. Virginia										18,000	2,750					115,401
Wisconsin	2,500	342					34,885			8,250	6,208	10,569				226,984
Wyoming							1,500									9,478
TOTAL	101,228	51,246	197,596	258,339	609,030	196,286	278,114	10,783	533,556	1,759,866	1,031,007	808,822	6,100	2,000	25,000	13,691,336

Source: State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

Chart B-2. State-Administered Research and Development Funds, 1972 Part C, VEA, Categorized by State

State	Q 1111	Q 1112	Q 1114	Q 1115	Q 1121	Q 1122	Q 1123	Q 1124	Q 1125	Q 1132	Q 1133	Q 1134	Q 1135	Q 1211	Q 1212	Q 1213
Alabama															12,168	
Alaska															9,296	
Arizona																
Arkansas						6,060					33,402					
California		33,000	19,975			40,500		54,711	16,000			16,000		2,045	35,000	
Colorado						8,634	11,320	1,450	4,981		744	4,495				
Connecticut										15,993						
Delaware											8,956					
D. of C.							23,700									
Florida				92,052		20,805		2,768								
Georgia						1,164		10,000		15,000				25,000		
Hawaii		16,687													4,145	
Idaho												8,754	5,337			
Illinois																
Indiana					10,050	26,941		4,715				40,350	1,500		43,850	
Iowa										105,814						
Kansas						2,000						52,505			14,627	
Kentucky												24,209	16,320			
Louisiana																
Maine								29,782		2,486			7,338			
Maryland	14,638						26,541		17,172	40,000			10,000			
Massachusetts		24,536				34,000			31,250	30,000						
Michigan						40,000										
Minnesota										37,273		37,659	3,552			
Mississippi	11,418					4,627			2,300	1,785		68,513	12,430			
Missouri		700								700		68,632	9,157			
Montana															35,540	
Nebraska																
Nevada															15,850	
New Hamshire																
New Jersey					1,897					26,532	104,271	23,208	595		12,382	
New Mexico												57,852				
New York		3,000					3,000	47,900	6,996	25,796	24,389	11,500				
North Carolina				30,000						22,500		104,032				
North Dakota						26,629										
Ohio					1,130							289,552				
Oklahoma															132,525	
Oregon							2,300			12,000		18,957	3,464			
Pennsylvania										1,000		47,773	14,13[illegible]		53,276	
Rhode Island												3,000			31,780	
South Carolina											46,638					
South Dakota																
Tennessee						1,882		1,490		1,283	2,550	7,258	19,735			
Texas								20,849		4,828	32,988	217,951	36,140		79,759	
Utah							3,874					15,584	125			
Vermont											9,000					
Virginia											11,738					
Washington					500	2,174				1,912		15,910				34,659
West Virginia								13,553			13,554	4,500				
Wisconsin						6,581		55,985	5,260	70,082	461	6,547				3,013
Wyoming															6,225	
TOTAL	26,056	77,923	19,975	122,052	13,577	222,087	70,735	243,203	81,959	414,784	288,691	1,144,741	139,829	27,045	486,423	37,672

Chart B-2. Continued

States	Q 1214	Q 1215	Q 1221	Q 1222	Q 1223	Q 1224	Q 1225	Q 1231	Q 1232	Q 1233	Q 1234	Q 1235	Q 1333	Q 1334	TOTAL
Alabama			17,200												29,368
Alaska															9,296
Arizona					45,939										45,939
Arkansas										37,705					77,167
California	10,513								10,000	23,848	30,000			3,433	295,025
Colorado							500								32,124
Connecticut			16,455				11,884								44,332
Delaware															8,956
Dist. of C.															23,700
Florida			21,148				62,460				74,985				274,308
Georgia				25,268						117,157	15,744		25,000		234,333
Hawaii															20,832
Idaho															14,091
Illinois		102,273					57,963				215,210				375,446
Indiana				19,481							62,852	14,282			224,021
Iowa		10,200													116,014
Kansas										8,000	31,882				109,014
Kentucky		14,190		4,200			25,824			12,435	31,955	15,746			144,979
Louisiana										1,805	150,788				152,593
Maine					179										39,585
Maryland															108,351
Massachusetts															119,786
Michigan															40,000
Minnesota															78,484
Mississippi															101,073
Missouri				326						2,100	13,192				94,807
Montana															35,540
Nebraska	5,739				11,669		12,464			1,380					31,252
Nevada															15,850
New Hampshire									9,737						9,737
New Jersey		3,044	31,300			164,198			21,283		2,447	2,926			394,083
New Mexico															57,852
New York		118,500		19,400				2,500		3,000		19,768			285,749
N. Carolina						6,000				43,276					205,808
N. Dakota															26,629
Ohio							7,868	2,732			8,490			15,000	324,772
Oklahoma															132,525
Oregon									3,891		7,500				48,112
Pennsylvania				34,516		30,000		47,138		33,940	30,987	6,000			298,766
Rhode Island															34,780
S. Carolina															46,638
S. Dakota				35,594											35,594
Tennessee				985					2,590		29,488				67,261
Texas	7,615						11,549	29,404	82,172			34,920			558,175
Utah					313										19,896
Vermont		4,050													13,050
Virginia		4,473		4,791							17,805				38,807
Washington					22,000		1,000				1,953				80,108
W. Virginia										5,892					37,499
Wisconsin				21,013	8,415		1,476		61,360		37,281	13,576			289,050
Wyoming										5,000					11,225
TOTAL	23,867	256,730	86,103	165,574	88,515	200,198	192,988	81,774	191,033	295,518	762,559	107,218	25,000	18,433	5,912,282

Source: State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

Chart B-3. State-Administered Research and Development Funds, 1973 Part C, VEA, Categorized by State

State	Q 1112	Q 1113	Q 1115	Q 1121	Q 1122	Q 1123	Q 1124	Q 1125	Q 1131	Q 1132	Q 1133	Q 1134	Q 1135	Q 1211	Q 1212	Q 1213
Alabama															121,677	
Alaska																
Arizona					2,960					6,810		34,008	7,035			
Arkansas					12,120						51,274					
California	40,500				57,475	26,348	68,644				18,000	140,154	40,000		37,459	
Colorado	11,000					1,600	7,913			8,195		70,535	4,100		11,000	
Connecticut												15,093	11,864			
Delaware												10,143				
D. of C.													36,854			
Florida								41,900			5,150	36,600	14,700		29,000	
Georgia							3,408				206,261	52,146			11,588	
Hawaii	8,077											18,232			23,925	
Idaho												21,330	10,674			
Illinois	29,985					29,400						29,995	37,491		103,922	
Indiana	13,675					6,462	19,147				57,907	64,032	6,525		433	10,000
Iowa						21,281				26,123	91,671		2,780		28,888	
Kansas	9,715										999	33,394	1,000			
Kentucky					3,475							3,443	47,637			
Louisiana											152,482					
Maine										7,568		25,757				
Maryland	3,100	17,000									26,088	10,000	35,240			
Massachusetts	32,000		11,000				60,000								21,850	
Michigan						4,286					171,535	210,000				
Minnesota	91,719							16,000					7,410			
Mississippi									10,182		3,000					
Missouri	700				700					18,257	37,190	98,149	700		700	
Montana										11,000					19,418	
Nebraska											24,473					
Nevada															17,032	
New Hampshire		2,736								5,000	2,404				7,500	
New Jersey					163,995						56,480					
New Mexico																
New York					299,962											
North Carolina						23,040	16,200			24,473	75,060	6,570				
North Dakota					25,825						16,300					
Ohio								(13,350)		(3,000)	(200,270)	(2,287,535)	(26,782)		(2,000)	
(1/5 Ohio)								2,670		600	40,054	457,507	5,356		400	
Oklahoma																
Oregon						500					28,585	10,500			19,494	
Pennsylvania					4,355			42,469		1,000	521,466	87,663	30,280			
Rhode Island	31,780															
South Carolina						18,643										
South Dakota					22,500							600			10,989	
Tennessee	7,848				10,597	3,047	50,741								168,291	
Texas	(6,204)			(25,569)	(35,398)	(133,704)				(66,703)	(95,486)	(93,390)	(52,586)	(4,469)		
(3/4 Texas)	4,653			19,177	26,549	100,278				50,027	71,615	70,042	39,440	3,352		
Utah	6,765				9,500					6,160		131,166	272			
Vermont	1,316					1,350				1,350	2,700	1,800	3,311			
Virginia						71,904						33,816				
Washington	966				5,000	2,336	3,750		1,000			4,930	8,669		16,659	5,500
West Virginia		20,000				6,904					5,892					10,793
Wisconsin	235				12,720	7,140	7,259		6,089	30,547	8,286	51,758	28,894			
Wyoming					4,800					4,000		5,593	1,134			
Puerto Rico																
TOTAL	294,034	39,736	19,177	44,746	662,533	324,519	237,062	103,039	17,271	201,110	1,674,872	1,735,856	381,386	3,352	650,225	26,293

Chart B-3. Continued

	Q 1221	Q 1222	Q 1223	Q 1224	Q 1225	Q 1231	Q 1232	Q 1233	Q 1234	Q 1235	Q 1333	Q 1334	Q 1335	Q 1312	Q 1315	TOTAL
Alabama			60,893													182,570
Alaska			12,340													12,340
Arizona																50,813
Arkansas								79,222								142,616
California			2,560	30,000	2,500			13,433	49,895	4,070						530,978
Colorado					7,468					4,393						126,204
Connecticut									5,600							33,477
Delaware																10,143
Dist. of C.																36,654
Florida	15,000	41,700	20,000		43,677				48,538							296,265
Georgia		59,644						34,631	12,492							380,170
Hawaii				5,000						12,619						67,853
Idaho								28,354								60,358
Illinois			58,746				24,944	21,674		124,989						461,146
Indiana			28,480	5,405	487					19,980						232,533
Iowa		8,810	12,705							14,750						207,008
Kansas						1,000		1,000			4,350					51,458
Kentucky					1,900			1,500	10,990	21,242						90,187
Louisiana				160,619												313,101
Maine												2,500				35,825
Maryland				3,500												94,928
Massachusetts							300						125,000			250,150
Michigan				36,250												422,071
Minnesota				20,000						25,000						160,129
Mississippi										11,995						25,177
Missouri		700				7,013	326									164,435
Montana								5,000								35,418
Nebraska		23,893		18,190												66,556
Nevada																17,032
New Hampshire								4,200		17,961						39,801
New Jersey		25,287														245,762
New Mexico		57,852														57,852
New York																299,962
N. Carolina			18,000							23,400						186,743
N. Dakota																42,125
Ohio					(16,457)				(36,000)							(2,585,484)
(1/5 Ohio)					3,291				7,218							517,096
Oklahoma								3,864								3,864
Oregon			300					11,770								71,149
Pennsylvania		1,560														688,793
Rhode Island																31,780
South Carolina																18,643
South Dakota																32,089
Tennessee					27,090			12,952								280,566
Texas	(53,386)	(79,455)			(41,355)					(38,000)						(725,705)
(3/4 Texas)	40,040	59,591			31,016					28,500						544,260
Utah																153,863
Vermont			1,346											3,600		16,773
Virginia		212,194		27,731	225,263					9,471					17,157	597,536
Washington								620								49,430
W. Virginia																43,589
Wisconsin				708			870		2,493							156,999
Wyoming																15,527
Puerto Rico		8,504			36,175			24,402	36,533	14,652						120,266
TOTAL	55,040	499,735	215,310	307,403	378,867	8,013	26,440	242,622	173,759	333,022	4,350	2,500	125,000	3,600	17,157	8,774,283

Source: State-Administered Research and Development Projects in Vocational Education, USOE, June, 1973.

APPENDIX C

Part D Expenditures Profile

1. Summary of Expenditures by Category and Expenditures by Category for Each Year, Fiscal Years 1970, 1972, 1973

2. State-Administered Exemplary Project Funds, Part D, VEA, categorized by State for Fiscal Years 1970, 1972, and 1973

SUMMARY

	Counseling and Placement	Career Awareness Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Education and Manpower	P_{1111} $ 20,350 .3%	P_{1112} $ 24,582 .4%	P_{1113} $ - 0 -	P_{1114} $ - 0 -	P_{1115} $ 13,167 .2%	$ 58,099 1.0%
Young people in Post-Secondary Vocational Ed.	P_{1121} 162,003 2.7%	P_{1122} 93,773 1.6%	P_{1123} - 0 -	P_{1124} 71,941 1.2%	P_{1125} 928,389 15.7%	1,256,043 21.2%
Young people who are out of school	P_{1131} 37,726 .6%	P_{1132} - 0 -	P_{1133} - 0 -	P_{1134} 25,443 .4%	P_{1135} 134,136 2.3%	197,305 3.3%
Young people still in school	P_{1141} 943,553 15.9%	P_{1142} 2,351,416 39.7%	P_{1143} 92,316 1.6%	P_{1144} 49,607 .8%	P_{1145} 970,099 16.4%	4,357,051 73.6%
TOTALS	1,163,632 19.7%	2,469,771 41.7%	92,316 1.6%	146,991 2.5%	2,045,791 34.6%	5,918,051 100%

Figure C-1. Summary of Analysis of 1970 Expenditures of State-Administered Part D Funds. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

	Counseling and Placement	Career Awareness Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Education and Manpower	P_{1111} $ 20,350 .3%	P_{1112} $ 24,582 .4%	P_{1113} $ - 0 -	P_{1114} $ - 0 -	P_{1115} $ 13,167 .2%	$ 58,099 1.0%
Young people in Post-Secondary Vocational Ed.	P_{1121} 162,003 2.7%	P_{1122} 93,773 1.6%	P_{1123} - 0 -	P_{1124} 71,941 1.2%	P_{1125} 626,288 10.6%	954,005 16.1%
Young people who are out of school	P_{1131} 37,726 .6%	P_{1132} - 0 -	P_{1133} - 0 -	P_{1134} 25,443 .4%	P_{1135} 134,136 2.3%	197,305 3.3%
Young people still in school	P_{1141} 812,679 13.7%	P_{1142} 1,851,802 31.3%	P_{1143} 80,761 1.4%	P_{1144} 49,607 .8%	P_{1145} 637,405 10.8%	3,432,254 58.0%
TOTALS	1,032,758 17.5%	1,970,157 33.3%	80,761 1.4%	146,991 2.5%	1,410,996 23.8%	4,641,663 78.4%

Figure C-2. Analysis of State-Administered Part D Funds obligated for Projects at the Local Level during 1970. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

STATE

	Counseling and Placement	Career Awareness and Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Education and Manpower	P_{1211} - 0 -	P_{1212} - 0 -	P_{1213} - 0 -	P_{1214} - 0 -	P_{1215} - 0 -	- 0 -
Young People in Post-Secondary Vocational Ed.	P_{1221} - 0 -	P_{1222} - 0 -	P_{1223} - 0 -	P_{1224} - 0 -	P_{1225} $302,101 5.1%	$ 302,101 5.1%
Young People Who are Out of School	P_{1231} - 0 -	P_{1232} - 0 -	P_{1233} - 0 -	P_{1234} - 0 -	P_{1235} - 0 -	- 0 -
Young People Still in School	P_{1241} $130,874 2.2%	P_{1242} $499,614 8.4%	P_{1243} $11,555 .2%	P_{1244} - 0 -	P_{1245} 332,694 5.6%	974,737 16.5%
TOTALS	130,874 2.2%	499,614 8.4%	11,555 .2%	- 0 -	634,795 10.7%	1,276,838 21.6%

Figure C-3. Analysis of State-Administered Part D Funds Obligated for Projects at the State Level during 1970. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

SUMMARY

	Counseling and Placement	Career Awareness Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Education and Manpower	P 1111 - 0 -	P 1112 $ 40,985 .6%	P 1113 - 0 -	P 1114 - 0 -	P 1115 $ 10,403 .1%	$ 51,388 .7%
Young people in Post-Secondary Vocational Ed.	P 1121 $ 252,560 3.6%	P 1122 73,232 1.1%	P 1123 $ 18,696 .3%	P 1124 - 0 -	P 1125 1,226,655 17.6%	1,571,143 22.6%
Young people who are out of school	P 1131 100,901 1.5%	P 1132 - 0 -	P 1133 - 0 -	P 1134 $ 6,575 .1%	P 1135 69,024 1.0%	176,500 2.6%
Young people still in school	P 1141 851,077 12.2%	P 1142 2,858,602 41.1%	P 1143 91,714 1.3%	P 1144 62,599 .9%	P 1145 1,291,130 18.6%	5,155,122 72.6%
TOTALS	1,204,538 17.3%	2,972,819 42.8%	110,410 1.6%	69,174 1.0%	2,592,212 37.3%	6,954,153 100 %

Figure C-4. Summary of Analysis of 1972 Expenditures of State-Administered Part D Funds. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

LOCAL

	Counseling and Placement	Career Awareness Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Education and Manpower	P_{1111} - 0 -	P_{1112} $ 40,985 .6%	P_{1113} - 0 -	P_{1114} - 0 -	P_{1115} $ 10,403 .1%	$ 51,388 .7%
Young people in Post-Secondary Vocational Ed.	P_{1121} $252,560 3.6%	P_{1122} 73,232 1.1%	P_{1123} $18,696 .3%	P_{1124} - 0 -	P_{1125} 879,841 12.7%	1,223,329 17.6%
Young people who are out of school	P_{1131} 100,451 1.4%	P_{1132} - 0 -	P_{1133} - 0 -	P_{1134} $ 6,575 .1%	P_{1135} 36,464 .5%	143,490 2.1%
Young people still in school	P_{1141} 710,124 10.2%	P_{1142} 2,416,859 34.8%	P_{1143} 80,714 1.2%	P_{1144} 62,599 .9%	P_{1145} 956,399 13.8%	4,226,695 60.8%
TOTALS	1,062,135 15.3%	2,531,076 36.4%	99,410 1.4%	69,174 1.0%	1,883,107 27.1%	5,644,902 81.2%

Figure C-5. Analysis of State Administered Part D Funds Obligated for Projects at the Local Level during 1972. Percents shown are percentages of the total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

STATE

	Counseling and Placement	Career Awareness and Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Education and Manpower	P_{1211} - 0 -	P_{1212} P - 0 -	P_{1213} - 0 -	P_{1214} - 0 -	P_{1215} - 0 -	- 0 -
Young People in Post-Secondary Vocational Ed.	P_{1221} 1,000	P_{1222} - 0 -	P_{1223} - 0 -	P_{1224} - 0 -	P_{1225} $ 347,814 5.0%	$ 347,814 5.0%
Young People Who are out of School	P_{1231} $ 450 .007%	P_{1232} - 0 -	P_{1233} - 0 -	P_{1234} - 0 -	P_{1235} 32,560 .5%	33,010 .5%
Young People Still in School	P_{1241} 140,953 2.0%	P_{1242} $ 441,743 6.4%	P_{1243} $ 11,000 .2%	P_{1244} - 0 -	P_{1245} 334,731 4.8%	928,427 13.4%
TOTALS	142,403 2.0%	441,743 6.4%	11,000 .2%	- 0 -	714,105 10.3%	1,309,251 18.8%

Figure C-6. Analysis of State-Administered Part D Funds Obligated for Projects at the State Level during 1972. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

SUMMARY

	Counseling and Placement	Career Awareness and Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Ed. and Manpower	P_{1111} $ - 0 -	P_{1112} $ 80,330 1.1%	P_{1113} $ - 0 -	P_{1114} $ - 0 -	P_{1115} $ 6,948 .1%	$ 87,278 1.2%
Young people in Post-Secondary Vocational Education	P_{1121} 205,033 2.9%	P_{1122} 176,179 2.5%	P_{1123} - 0 -	P_{1124} 50,000 .7%	P_{1125} 1,173,068 16.8%	1,604,280 23.0%
Young people who are out of school	P_{1131} 41,773 .6%	P_{1132} 1,200 .02%	P_{1133}	P_{1134} 6,775 .1%	P_{1135} 65,314 .9%	115,062 1.6%
Young people still in school	P_{1141} 360,001 5.2%	P_{1142} 3,540,650 50.8%	P_{1143} 47,007 .7%	P_{1144} 96,898 1.4%	P_{1145} 1,118,798 16.0%	5,163,354 74.1%
TOTALS	606,807 8.7%	3,798,359 54.5%	47,007 .7%	153,673 2.2%	2,364,128 33.9%	6,969,974 100%

Figure C-7. Summary of Analysis of 1973 Expenditures of State-Administered Part D Funds. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

	Counseling and Placement	Career Awareness and Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Ed. and Manpower	P_{1111} $ - 0 -	P_{1112} $ 80,330 1.1%	P_{1113} $ - 0 -	P_{1114} $ - 0 -	P_{1115} $ 6,948 .1%	$ 87,278 1.2%
Young people in Post-Secondary Vocational Education	P_{1121} 196,833 2.8%	P_{1122} 176,179 2.5%	P_{1123} - 0 -	P_{1124} 50,000 .7%	P_{1125} 719,146 10.3%	1,142,158 16.4%
Young people who are out of school	P_{1131} 41,773 .6%	P_{1132} 1,200 .02%	P_{1133} - 0 -	P_{1134} 6,775 .1%	P_{1135} 63,797 .9%	113,545 1.6%
Young people still in school	P_{1141} 266,251 3.8%	P_{1142} 2,948,293 42.3%	P_{1143} 36,007 .5%	P_{1144} 96,898 1.4%	P_{1145} 866,503 12.4%	4,213,952 60.5%
TOTALS	504,857 7.2%	3,206,002 46.0%	36,007 .5%	153,673 2.2%	1,656,394 23.8%	5,556,933 79.7%

Figure C-8. Analysis of State Administered Part D Funds Obligated for Projects at the Local Level during 1973. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

STATE

	Counseling and Placement	Career Awareness and Exploration	Work Experience	Cooperative Education	Vocational Instruction	TOTALS
Cooperation between Ed. and Manpower	P_{1211} $ - 0 -	P_{1212} $ - 0 -	P_{1213} $ - 0 -	P_{1214} $ - 0 -	P_{1215} $ - 0 -	$ - 0 -
Young people in Post-Secondary Vocational Education	P_{1221} 8,200 .1%	P_{1222} - 0 -	P_{1223} - 0 -	P_{1224} - 0 -	P_{1225} 453,922 6.5%	462,122 6.6%
Young people who are out of school	P_{1231} - 0 -	P_{1232} - 0 -	P_{1233} - 0 -	P_{1234} - 0 -	P_{1235} 1,517 .02%	1,517 .02%
Young people still in school	P_{1241} 93,750 1.3%	P_{1242} 592,357 8.5%	P_{1243} 11,000 .2%	P_{1244} - 0 -	P_{1245} 252,295 3.6%	949,402 13.6%
TOTALS	101,950 1.5%	592,357 8.5%	11,000 .2%	0%	707,734 10.1%	1,413,041 20.3%

Figure C-9. Analysis of State-Administered Part D Funds Obligated for Projects at the State Level during 1973. Percents shown are percentages of total of all categories and levels.

Source: All of the charts and figures in Appendix C are steps in the analysis of data found in State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

Chart C-1. State-Administered Exemplary Project Funds, 1970 Part D, VEA, Categorized by State

State	P 1111	P 1112	P 1115	P 1121	P 1122	P 1124	P 1125	P 1131	P 1134	P 1135
Alabama							36,925			
Alaska										
Arizona										
Arkansas			2,460	17,520	3,902		53,652			
California							9,772			
Colorado							7,008			36,711
Connecticut				37,862						
Delaware										
D. of C.										
Florida										
Georgia					8,761	8,761	20,909			
Hawaii							14,006			
Idaho							56,831			
Illinois	20,350							28,000		
Indiana										
Iowa					32,500					
Kansas										
Kentucky										
Louisiana							15,000			
Maine										
Maryland				18,000	22,000		5,000			31,000
Massachusetts									25,443	25,000
Michigan			8,720				29,297	1,551		
Minnesota							122,537			
Mississippi										
Missouri							37,924			
Montana				21,760						
Nebraska				30,044						
Nevada										
New Hampshire							8,140			
New Jersey		24,582								
New Mexico				5,000						
New York							12,802			
North Carolina			1,987	17,272	132		26,675			3,986
North Dakota										
Ohio					9,605		44,709			
Oklahoma						13,180	29,556			
Oregon										
Pennsylvania				1,484						
Rhode Island										
South Carolina										
South Dakota										
Tennessee										
Texas							55,229			
Utah										
Vermont							340			
Virginia										
Washington				12,047			14,040	3,500		
West Virginia										35,816
Wisconsin				1,014	16,673		25,936	4,675		1,623
Wyoming						50,000				
TOTAL	20,350	24,582	13,167	162,003	93,773	71,941	626,288	37,726	25,443	134,136

Chart C-1. (Continued)

State	P 1141	P 1142	P 1143	P 1144	P 1145	P 1225	P 1241	P 1242	P 1243	P 1245	TOTAL
Alabama		26,657	47,023		49,458						123,138
Alaska	30,000	57,881			21,502						146,308
Arizona		29,706		1,422	10,470					36,140	77,738
Arkansas										112,276	112,276
California	44,864	62,036			12,800						197,234
Colorado	9,970						49,634	62,914			132,290
Connecticut		42,263									85,082
Delaware		65,274									103,136
D. of C.		103,936									103,936
Florida										133,627	133,627
Georgia								129,246			129,246
Hawaii		52,569									91,000
Idaho	45,978	24,764			20,057						104,805
Illinois	51,924				32,382						161,487
Indiana		67,331			19,958						115,289
Iowa	58,860							48,619			107,479
Kansas		66,581						15,062			114,143
Kentucky	60,374	60,374									120,748
Louisiana	124,484										124,484
Maine	15,120	21,407								16,478	68,005
Maryland	14,500	31,594									122,094
Massachusetts		53,461									103,904
Michigan		52,529	33,738		28,938						154,773
Minnesota											122,537
Mississippi						116,278					116,278
Missouri		76,695		12,000							126,619
Montana	61,331				21,079						104,170
Nebraska	73,896										103,940
Nevada	19,074	19,064			5,592						43,730
New Hampshire		4,000			45,710		31,740			9,368	98,958
New Jersey		67,427						47,219			139,228
New Mexico	6,432	15,923			29,650						57,005
New York		95,226			125,569						233,597
North Carolina		27,235			4,550			37,411			119,248
North Dakota		13,600				42,790		36,325	11,555		104,270
Ohio		159,276									159,276
Oklahoma		5,919		23,020	26,040	3,700				2,225	115,218
Oregon		25,962		13,165	3,609						87,472
Pennsylvania	114,411						49,500	4,138			168,049
Rhode Island		10,775			25,737	67,141					105,137
South Carolina								118,680			118,680
South Dakota	8,300	50,707				45,000					104,007
Tennessee		124,351									124,351
Texas					31,642	16,033				10,000	57,675
Utah					50,791	262				11,053	117,335
Vermont		59,249			29,721	10,897				1,527	101,734
Virginia		116,754			12,000						128,754
Washington	39,200	51,856									120,643
West Virginia		13,340			24,075						73,231
Wisconsin	33,961										84,082
Wyoming		96,080			6,075						152,155
TOTAL	812,679	1,851,802	80,761	49,607	637,405	302,101	130,874	499,614	11,555	332,694	5,918,501

Source: State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

Chart C-2. State-Administered Exemplary Project Funds, 1972 Part D, VEA, Categorized by State

States	P 1112	P 1115	P 1121	P 1122	P 1123	P 1125	P 1131	P 1134	P 1135	P 1141	P 1142	P 1143	P 1144	P 1145	P 1221	P 1225
Alabama											33,090	41,294		49,758		
Alaska											104,493					
Arizona											20,000		25,000			
Arkansas				5,000		2,000				28,756	53,893		25,000			
California				7,000		134,606				70,000	22,000			75,000		
Colorado						13,056					81,790					1,860
Connecticut											103,827					
Delaware			21,355			38,591				304	35,675			11,000		
D. of C.											108,512					
Florida																
Georgia																
Hawaii						60,201					58,237					
Idaho						75,778				21,333	2,924					
Illinois						78,090				125,647	25,825			95,072		
Indiana						12,841	67,689			36,000	1,900			50,100		
Iowa										79,632	16,429					
Kansas				19,994							94,740					
Kentucky										37,798	107,216					
Louisiana											86,815			67,144		
Maine						31,300					25,211		3,000			
Maryland			30,750	15,000						10,000	94,000					
Massachusetts			92,468					6,575			8,645					
Michigan		10,403				43,418	19,310					33,800		34,657		
Minnesota						34,952					25,844			12,040		60,000
Mississippi																72,662
Missouri						60,255					89,299		9,599			
Montana											9,635			100,465		
Nebraska			8,091	20,000						50,000		750				
Nevada										19,508	43,792			30,953		
New Hampshire						4,845					5,100			52,516		
New Jersey	40,985					7,000				23,766	14,286					
New Mexico			1,000			350				15,599	20,060			49,712	1,000	
New York						6,576					189,669			96,275		
North Carolina			15,658	5,000		21,928					125,986			19,253		
North Dakota											30,500			2,500		29,566
Ohio											163,050					
Oklahoma						4,950					13,490			31,627		20,000
Oregon						25,382				23,596	21,743					
Pennsylvania						72,192				63,086						
Rhode Island						38,710					64,870	4,870		2,997		
South Carolina											100,809					8,120
South Dakota											120,389					
Tennessee											25,923					154,606
Texas						7,000					50,732			1,350		
Utah																
Vermont						6,240				15,710	26,990			20,305		
Virginia			3,950			54,650	5,200			1,200	77,422			32,543		
Washington			60,000	1,238						38,450	42,050					
West Virginia									35,562	23,112	17,635			49,371		
Wisconsin			18,288		18,696	44,930	8,252		902	26,625	34,363					
Wyoming											23,000			71,761		
TOTALS	40,985	10,403	251,560	73,232	18,696	879,841	100,451	6,575	36,464	710,124	2,416,859	80,714	67,599	956,399	1,000	346,814

Chart C-2. (Continued)

States	P 1231	P 1235	P 1241	P 1242	P 1243	P 1245	X	C/A %	V/I %	TOTALS
Alabama				26,065				39%	61%	150,207
Alaska								100%	- 0 -	104,493
Arizona						44,040		22%	78%	89,040
Arkansas			1,500			18,321		66%	34%	134,472
California								32%	68%	308,606
Colorado								86%	15%	96,706
Connecticut								100%	- 0 -	103,827
Delaware								54%	46%	106,925
D. of C.								100%	- 0 -	108,512
Florida						169,176		- 0 -	100%	169,176
Georgia				99,135				100%	- 0 -	99,135
Hawaii							1,997	48%	50%	120,435
Idaho								24%	76%	100,035
Illinois								47%	53%	324,634
Indiana								63%	37%	168,530
Iowa				27,893				100%	- 0 -	123,954
Kansas				17,000				100%	- 0 -	131,734
Kentucky								100%	- 0 -	145,014
Louisiana								56%	44%	153,959
Maine				10,104			2,274	48%	48%	71,889
Maryland								100%	- 0 -	149,750
Massachusetts							16,000	82%	5%	123,688
Michigan								14%	86%	141,568
Minnesota								19%	35%	132,836
Mississippi								- 0 -	100%	72,662
Missouri								56%	44%	159,153
Montana								9%	91%	110,100
Nebraska								99%	1%	78,841
Nevada								67%	33%	94,253
New Hampshire			36,100					42%	58%	98,561
New Jersey				39,205				94%	6%	125,242
New Mexico	450						20,271	35%	46%	108,442
New York						28,950		59%	41%	321,470
North Carolina							4,431	77%	21%	194,225
North Dakota				13,860	11,000		6,400	47%	46%	91,857
Ohio								100%	- 0 -	163,050
Oklahoma						15,940		16%	84%	86,007
Oregon								64%	36%	70,721
Pennsylvania			96,229				46,749	64%	29%	278,256
Rhode Island						2,804		57%	43%	114,251
South Carolina			140,176					100%	- 0 -	140,976
South Dakota								93%	7%	108,929
Tennessee		32,560						79%	21%	152,949
Texas			7,124	44,670				33%	67%	232,323
Utah						55,500		44%	56%	114,582
Vermont				22,835			15,050	61%	25%	107,130
Virginia								49%	51%	169,965
Washington								100%	- 0 -	141,738
West Virginia								32%	68%	125,680
Wisconsin							2,138	57%	42%	154,194
Wyoming							10,000	22%	68%	104,761
TOTALS	450	32,560	140,953	441,743	11,000	334,731	125,310			7,079,463

X: This column contains projects that did not seem to fit any of the categories established. It is not used in determining the percentages for C/A or V/I.

C/A: This column indicates the percent of total Part D. state-administered funds spent for career awareness and guidance type projects at the State and local level.

V/A: This column indicates the percent of total Part D. state-administered funds spent for work experience, cooperative education, and vocational instruction type projects at the local level.

Source: State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

Chart C-3. State-Administered Exemplary Project Funds, 1973 Part D, VEA, Categorized by State

States	P 1112	P 1115	P 1121	P 1122	P 1124	P 1125	P 1131	P 1132	P 1134	P 1135	P 1141
Alabama										24,879	
Alaska											
Arizona	45,890										6,731
Arkansas											11,308
California					50,000		29,778				9,952
Colorado				114,965							
Connecticut											
Delaware						48,407					
D. of C.											
Florida											
Georgia											
Hawaii			10,641			10,867					
Idaho						41,000					22,145
Illinois	8,333					141,217					
Indiana						16,690					
Iowa			23,626								21,835
Kansas				19,000							
Kentucky											
Louisiana						44,060					
Maine				9,053		7,000					8,000
Maryland			21,000								
Massachusetts			75,418			54,850			6,575		
Michigan						15,000					
Minnesota						49,600					
Mississippi											
Missouri											
Montana											
Nebraska							11,995		200		
Nevada	7,505										9,423
New Hampshire						4,485					36,100
New Jersey			11,524								
New Mexico						61,450					10,000
New York											
North Carolina											
North Dakota						6,400					
Ohio											
Oklahoma						50,094				18,340	
Oregon		6,948				41,533					
Pennsylvania											
Rhode Island											
South Carolina											
South Dakota						9,945					
Tennessee											
Texas	18,602										50,730
Utah						20,938					
Vermont						13,598					16,530
Virginia						27,576		1,200			
Washington			45,000			8,000					8,500
West Virginia										20,578	15,423
Wisconsin			9,624	33,161		46,436					27,974
Wyoming											11,600
Puerto Rico											
TOTAL	80,330	6,948	196,833	176,179	50,000	719,146	41,773	1,200	6,775	63,797	266,251

Chart C-3. (Continued)

States	P 1142	P 1143	P 1144	P 1145	P 1221	P 1225	P 1241	P 1242	P 1243	P 1245	P 1235	TOTAL
Alabama	18,700	19,232								21,048		62,811
Alaska	83,579											104,627
Arizona	17,933	16,775		13,496		17,842				19,500		118,667
Arkansas	124,252			25,000				23,500				180,060
California	89,075			25,000								227,305
Colorado												114,965
Connecticut	59,101		32,970									92,071
Delaware												43,407
D. of C.	109,151					176,199						109,151
Florida								161,731				176,199
Georgia												161,731
Hawaii	25,133			22,515		19,473						88,629
Idaho	20,080		8,800	20,350								112,375
Illinois	7,236			69,772			40,000					226,558
Indiana	36,000			66,800				30,531				159,490
Iowa	11,069						4,000					87,061
Kansas	8,500			34,500								66,000
Kentucky	132,771											132,771
Louisiana	108,380											152,440
Maine	55,967			23,015								103,035
Maryland	109,775							19,000				149,775
Massachusetts	100,000											136,843
Michigan						58,928		100,000				115,000
Minnesota												108,528
Mississippi	32,000											132,000
Missouri	159,930			143,773			49,750					159,930
Montana	31,844											175,617
Nebraska	61,533			1,099								123,478
Nevada	77,282			19,177								95,309
New Hampshire	53,717											113,479
New Jersey	171,934			2,900								186,358
New Mexico	19,000											99,450
New York	111,704					31,600		84,191				111,704
North Carolina				2,500		9,154		12,664	11,000	29,566		115,791
North Dakota	30,100											101,384
Ohio	241,188											241,188
Oklahoma	19,179		10,490	4,884		24,849						134,784
Oregon	44,937							51,490				86,470
Pennsylvania			44,638	81,448		70,876						248,452
Rhode Island	86,811			8,982								95,793
South Carolina								109,250				109,250
South Dakota	11,999			110,000		45,001						176,945
Tennessee				43,000						38,000		81,000
Texas	121,489											190,821
Utah	101,936											122,874
Vermont	53,381			30,125								113,634
Virginia	138,470			80,794								248,040
Washington	72,715				8,200							142,415
West Virginia	1,237			32,373							1,517	69,611
Wisconsin	69,229											187,941
Wyoming				5,000								104,627
Puerto Rico	88,027									144,181		176,130
	31,949											
TOTAL	2,948,293	36,007	96,898	866,503	8,200	453,922	93,750	592,357	11,000	252,295	1,517	6,969,974

Source: State-Administered Exemplary Projects in Vocational Education, USOE, June, 1973.

APPENDIX D

Part I

Current Status and Summary Analysis
from USOE Curriculum Branch

APPENDIX D. PART I: Current Status and Summary Analysis from USOE Curriculum Branch

Part I, Curriculum Development, Vocational Education Amendments of 1968

Background/Overview

Legislation: VEA of 1963, as amended, Part I

Expiration Date: June 30, 1975

Funding History:

Year	Authorization	Appropriation
1969	$ 7,000,000	-0-
1970	10,000,000	$ 880,000
1971	10,000,000	4,000,000
1972	10,000,000	4,000,000
1973	10,000,000	4,000,000
1974	10,000,000	4,000,000*

*Release of an additional $2,000,000 brought this figure to $6,000,000.

Program Purpose and Objectives

Part I of the Vocational Education Act of 1963, as amended authorizes the Commissioner to make grants or contracts with colleges and universities, State boards, and other public or nonprofit private agencies and institutions for curriculum development in vocational and technical education. No matching funds are required.

The Curriculum Development Program provides for the development, testing, and dissemination of vocational education curriculum materials for use in teaching occupational subjects, including curriculums for new and changing occupational fields and vocational teacher education. It further provides for: developing standards for curriculum development in all occupational fields; coordinating the efforts of the States with respect to curriculum development and management; surveying curriculum materials produced by other agencies; evaluating vocational-technical education curriculum materials; and training personnel in curriculum development.

Most of these activities are carried out through individual projects. However, there are also seven Curriculum Centers which cover the country and which provide a network for coordination.

PART I, CURRICULUM DEVELOPMENT,
VOCATIONAL EDUCATION AMENDMENTS OF 1968

Current Status

Curriculum projects funded under Part I, Curriculum Development, P.L. 90-576, since 1970, tend to fall into seven major categories: (1) development of vocational curricula, with emphasis on occupational clusters, (2) general career education curricula, (3) curriculum development for emerging and expanding occupations at the postsecondary level, (4) curriculum development for groups with special needs, (5) training curriculum development personnel and familiarizing teachers with curriculum packages, (6) the national network for curriculum coordination, and (7) survey of curriculum materials available from government agencies. As of July 1, 1973 there were 65 active curriculum projects funded under Part I. Monitoring the technical content aspects of the projects is shared by members of the Division of Research and Demonstration and others in the Office of Adult, Vocational-Technical, and Manpower Education.

Curriculum development in the 15 occupational "clusters" identified by the Division of Vocational-Technical Education began in fiscal '71. Thus far the following areas have been addressed in major projects aimed at developing "cluster" curricula: agribusiness; business and office; communications and media; health; construction; marketing and distribution; manufacturing; public services; transportation; and the consumer aspect of the consumer-homemaking cluster. Some initial efforts have been undertaken in recreation, tourism, and hospitality; environmental protection and the arts. By fiscal '76 major curriculum development in all of the 15 clusters will have been undertaken. Products from these efforts are already beginning to be used in the schools.

Two major projects aimed at the development of career education curricula, K-6 and 7-9 are nearing completion. These will interface with the "cluster" curricula to form a K-12 instructional system. Complementing the elementary school career education curriculum development is a series of 16 films "The Kingdom of Could Be You" on the 15 clusters and the general world of work. Each film has been shown twice as part of the "Captain Kangaroo" children's TV program.

Soon to be published is a book on Career Education for the Gifted and Talented: Curriculum Guidelines, product of a Part I-funded project. Also in the area of career education is a machine-aided instructional program designed to contribute to awareness of careers on the part of students, K-12. Guidelines for industrial arts in career education, product of a Part I project have recently been disseminated as have guidelines for curricula for the arts in career education.

Curricula for emerging and expanding occupations at the post-secondary level have been developed in: bio-medical equipment technology; electro-mechanical technology; nuclear medical technology; electro-optical technology; concrete technology; and allied health. Impact of these efforts on post-secondary programs has been great. One project in the area of

electro-mechanical technology was instrumental in the development of instructional programs in 70 community colleges.

Curriculum development for groups with special needs is a priority area. Thus far, special efforts to meet needs of these in correctional institutions, Spanish-surname youth, disadvantaged adults, Indians, and other minorities have been undertaken. Further work to address needs of special groups is anticipated.

Training institutes for curriculum personnel development were held in three regions of the country under a Part I Curriculum Development grant. Just off the press are guides for curriculum development in vocational-technical and career education which are products of these institutes.

Education for transfer to the metric system has been undertaken under Part I funding. Further work in the priority area is anticipated.

A major achievement of the past three years is the development of a National Network for Curriculum Coordination, consisting of seven curriculum centers in California, Illinois, Kentucky, Mississippi, New Jersey, Oklahoma, Washington, liaison persons in the other states, and the Curriculum Development Branch of the Division of Research and Demonstration. The purposes of the Network are:

1. INFORMATION SHARING

   To provide a mechanism for the sharing of information on curriculum materials available and under development, and for reporting on coordination efforts.

2. STANDARDS

   To develop and recommend guidelines for curricula and curriculum and development with the ultimate goal of increasing the effectiveness of curriculum materials and enhancing their transportability.

3. CURRICULUM NEEDS, AS A BASIS FOR PLANNING

   To establish and maintain a system for determining curriculum needs in vocational-technical education and reporting conclusions to the field.

4. COORDINATION

   To coordinate activities in curriculum development, dissemination and utilization with the aim of avoiding unwarranted duplication, enhancing quality of effort, increasing the transportability of curriculum materials, and improving the acceptance and use of curriculum materials.

The Network is proving cost effective in terms of avoiding unnecessary duplication of effort in curriculum development, coordinating curriculum development, and testing, and providing for more effective dissemination of curriculum materials.

Surveys of curriculum materials available from government agencies have been made and the results disseminated to the vocational education community. There is need for such surveys on a continuing basis.

PART I, CURRICULUM DEVELOPMENT, VOCATIONAL EDUCATION AMENDMENTS OF 1968

Related Tabular and Statistical Data

A. Funding and Number of Projects by Part I Purposes, '70-'73

Part I Purposes	1970		1971		1972		1973	
	Funding Level	No. Projects	Funding Level	No. Projects	Funding Level	No. Projects	Funding Level	No. Projects
1. Curriculum Materials Dev. and Dissem. (New, Changing Occupations)	670,633.73 (59,935)	16 (2)	3,299,997 (716,233)	19 (2)	2,852,310 (743,141)	21 (4)	3,128,342 (707,150)	23 (4)
2. Dev. Standards for Curriculum Development					25,000	1	60,000	1
3. Coordinating Efforts of the States	9,507.76	1			917,880	5	395,000	3
4. Survey Materials	167,074.00	1	129,000	1	48,731	2		
5. Materials Eval. and Use					56,060	3		
6. Personnel Training			571,000	7	99,679	1		
TOTALS	$847,215.49	18	$3,999,997	27	$3,999,660	33	$3,583,342	27

B. DISTRIBUTION OF PART I FUNDS BY OCCUPATIONAL CLUSTERS, '71-'73

AREA	FY 1971	FY 1972	FY 1973
General Career Education	0	$1,137,661	$ 273,729
Agribusiness	$ 149,913	260,000	0
Business and Office	200,000	0	520,314
Communications and Media	570,000	0	241,830
Health	0	200,000	500,000
Hospitality, Tourism and Recreation	103,012	0	0
Consumer and Homemaking	164,383	195,724	162,144
Fine Arts and Humanities	0	0	26,109
Construction Occupations	150,000	71,705	262,786
Environment	296,236	0	0
Marketing and Distribution	0	24,000	189,853
Manufacturing	150,000	0	250,000
Public Services	150,000	0	229,707
Personal Services	200,000	0	0
Transportation	150,000	49,396	250,000
Marine Sciences	0	0	0
Other	150,000	200,000	570,835
TOTALS	$2,433,544	$2,138,486	$3,477,307

C. CURRICULA FOR GROUPS WITH SPECIAL NEEDS

SPECIAL NEED GROUP SERVED	FY 1971	FY 1972	FY 1973
DISADVANTAGED		$196,697 Tng. in Correctional Institutions Employability Skills for Disadv. Adults	
SPECIAL POPULATIONS	$700,000 Seven Workshops for Teachers on Curr. Dev. and Modification Voc. Instr. Matls. for Students with Special Needs		
MINORITIES Indian			
Spanish Speaking		$20,000 Developing Career Awareness for Spanish Surnamed People	
All Minorities			$462,067 Mgmt. Tng. for Operators of Small Businesses Business Ownership Curriculum
GIFTED		$55,463 Career Ed. for Gifted and Talented Career Cluster for College Oriented Students	

D. CONSUMER EDUCATION

PROJECTS	FY '72 ONLY
1. Survey of Consumer Education in the States with emphasis on effects of state legislation for consumer education	$ 10,000
2. Development of curriculum modules in consumer education, K-adult	185,724
3. World of Work Economic Education, A Key to Career Education in Secondary Schools (consumer education component)	249,230
TOTAL	$444,954

PART I, CURRICULUM DEVELOPMENT, VOCATIONAL EDUCATION AMENDMENTS OF 1968

SUMMARY ANALYSIS

The impact of Part I funds in meeting national curriculum development and management priorities in vocational education is being felt in significant ways despite the fact that Part I funds have been available only since 1970.

Curriculum projects are nearing completion in six of the 15 occupational "clusters" identified by the Division of Vocational-Technical Education: construction, public services, manufacturing, communications and media, health, and consumer education (one aspect of the consumer - homemaking cluster). Development of curricula in five other clusters is underway and projected in the four remaining. Three hundred copies of the public service curriculum products have already been disseminated - in their test form. Guidelines developed for the recreation, tourism, and hospitality cluster have been disseminated to all states and 4,000 local education agencies. Thirty-five thousand copies of the product of a series of environmental occupations awareness workshops have been sold by GPO; an additional 15,000 are being printed. Seven thousand and four hundred copies of a curriculum guide for computer sciences at the secondary level, and 2,230 of the computer science guide for the postsecondary level have been disseminated. Curriculum guides for a variety of allied health occupations are being commercially printed and disseminated; in the testing of these materials, 15,325 students were involved.

In order to achieve a total instructional system, K-12 and above, two major projects for the development of career education curricula, K-6 and K-9, were undertaken to articulate with the occupational cluster curricula for the secondary level. The curriculum products, now being field tested, should be available to the field in summer, 1974. Just in the testing phases of the two projects, a total of 12,100 students are being reached in 14 cities. A series of films on the 15 occupational clusters, designed to develop career awareness in three to six year olds, have been viewed in the "Captain Kangaroo" TV program by more than 3,000,000 children across the United States. Career Education invitational workshops, funded under Part I, reached 984 educationl leaders throughout the country; these were effective in developing understanding and promoting the concept of career education.

Four projects, funded under Part I in their last phases, are concerned with the development of curricula in the emerging occupational fields of: bio-medical equipment, electro-mechanical technology, laser and electro-optical technology, and nuclear medical technology. These projects have been instrumental in the initiation and development of training programs in these fields in postsecondary schools throughout the country. In the case of electro-mechanical technology, 70 schools have adopted the program, which has been published by a commercial publisher. A commercial publisher

has also contracted for the publication of curriculum guides in concrete technology. Recently printed for national dissemination by GPO are postsecondary curriculum guides in: Textile, Apparel, and Accessories Industries; Career Education in Natural Resources; Computer Science; Air Pollution Technology; Social Services; and a guide for the Library Technical Assistant.

Groups with special needs addressed through Part I funded projects have included: disadvantaged adults, those in correctional institutions, gifted and talented, and minorities. Two of the projects were state-of-the-art studies to provide direction for further work. One, on career education for the gifted and talented, was a pioneer effort in this field.

Another pioneering project is concerned with the development of curriculum packages for metric education and familiarizing teachers with these. Further work in metric education is anticipated.

First steps in meeting a crucial need for trained curriculum specialists in vocational education were taken in three regional institutes held in 1973. Out of these institutes have come recently-published guides for curriculum developers.

Surveying curriculum materials produced by other agencies is a Part I purpose. A survey of 48 agencies resulted in listings of materials in seven vocational areas and the printing of 79,986 copies of the documents which make these listings available to the vocational education community.

The Office of Education, through its Curriculum Development Branch in the Division of Research and Demonstration, BOAE, coordinates the curriculum work underway in some 65 active projects. For example, the directors of "cluster" projects are brought together to share experiences and problems and to relate their efforts; they have had one training session on field testing of curriculum materials.

Monitoring is shared by members of the Curriculum Development Branch and specialists in technical areas throughout BOAE. This is a particular strength of the Curriculum Development Program. It means that technical specialists in the content fields are contributing the benefits of their expertise to the projects and are, in turn, increasing their expertise through contact with specialists in the field.

In July, 1973, plans were completed for a national network to maximize resources for curriculum development and coordination in vocational-technical education. The National Network for Curriculum Coordination is now fully functioning. The achievement of this flexible and accomodative system for communication and curriculum coordination was the culmination of two years of planning and development. The system, involving seven curriculum centers and liaison persons in the states relating to each center, is proving cost-effective in meeting its objectives of: information sharing; standards; curriculum needs, as a basis for planning; and coordination.

Since it takes at least two years to develop and test a major curriculum package, and an additional four months or so for printing and dissemination, the impact of much of the early Part I effort is only now being felt. A number of projects more recently funded are in the development and testing phases. Nevertheless, there are many evidences that the Part I Curriculum Program is contributing significantly to broadening the concept of vocational education and improving the quality of its programs.

PROJECTIONS

Curriculum development priorities are established by the Deputy Commissioner through interaction with: the Evaluation Committee of the National Advisory Council for Vocational Education; the Research Committee of the Association of State Directors of Vocational Education; other government agencies; relevant professional organizations; relevant groups from business, industry, and labor; members of BOAE staff; and Regional Office staff.

For fiscal '74 priorities include: (1) the occupational clusters of recreation, tourism, and hospitality, arts and humanities, marine science, and personal services, (2) paralegal occupations, (3) small business ownership, with emphasis on the secondary level, (4) home economics related occupations, (5) metrication, (6) career education for Indians and for Spanish-speaking migrants, (7) training films in a Public Services "common core" for CATV delivery, (8) the home as a learning center: feasibility phase, and (9) programs for preparing curriculum specialists in vocational education.

For fiscal '75 priority areas are: (1) emerging occupations, post-secondary level, (2) the environmental cluster, (3) metrication, (4) occupational education of gifted and talented, (5) adapting DOD curriculum materials to classroom use, (6) reorientation of family life aspect of home economics and development of a model for continuous updating of a field, (7) distribution of the public services films for CATV developed through '74 funding, (8) bilingual education, (9) curricula for Spanish-speaking, and (10) National Network for Curriculum Coordination.

Beyond fiscal '75, obvious broad priority areas are: the network for curriculum coordination; curricula for emerging occupational fields, such as solar energy and new applications of laser technology; curricula for specific occupations for high school and postsecondary levels related to the more general "cluster" curricula; further development of curricula for delivery in the home; further development of curricula for groups with special needs; further adaptation of DOD curricula for classroom use; and improved systems of dissemination and diffusion of curriculum materials.

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After gaining a master's degree in mathematical statistics at Arizona State University, Mrs. LaRue Miller taught mathematics for several years at universities and community colleges in Arizona, Utah, Alaska, and Minnesota. She became associated with Vocational Education through her work as editor, mathematics consultant, and typist for several manuscripts on vocational and technical subjects, including Algebraic Transient Analysis. She was also assistant to the editor and mathematics consultant to the printer for the 34th Yearbook of the National Council of Teachers of Mathematics.

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